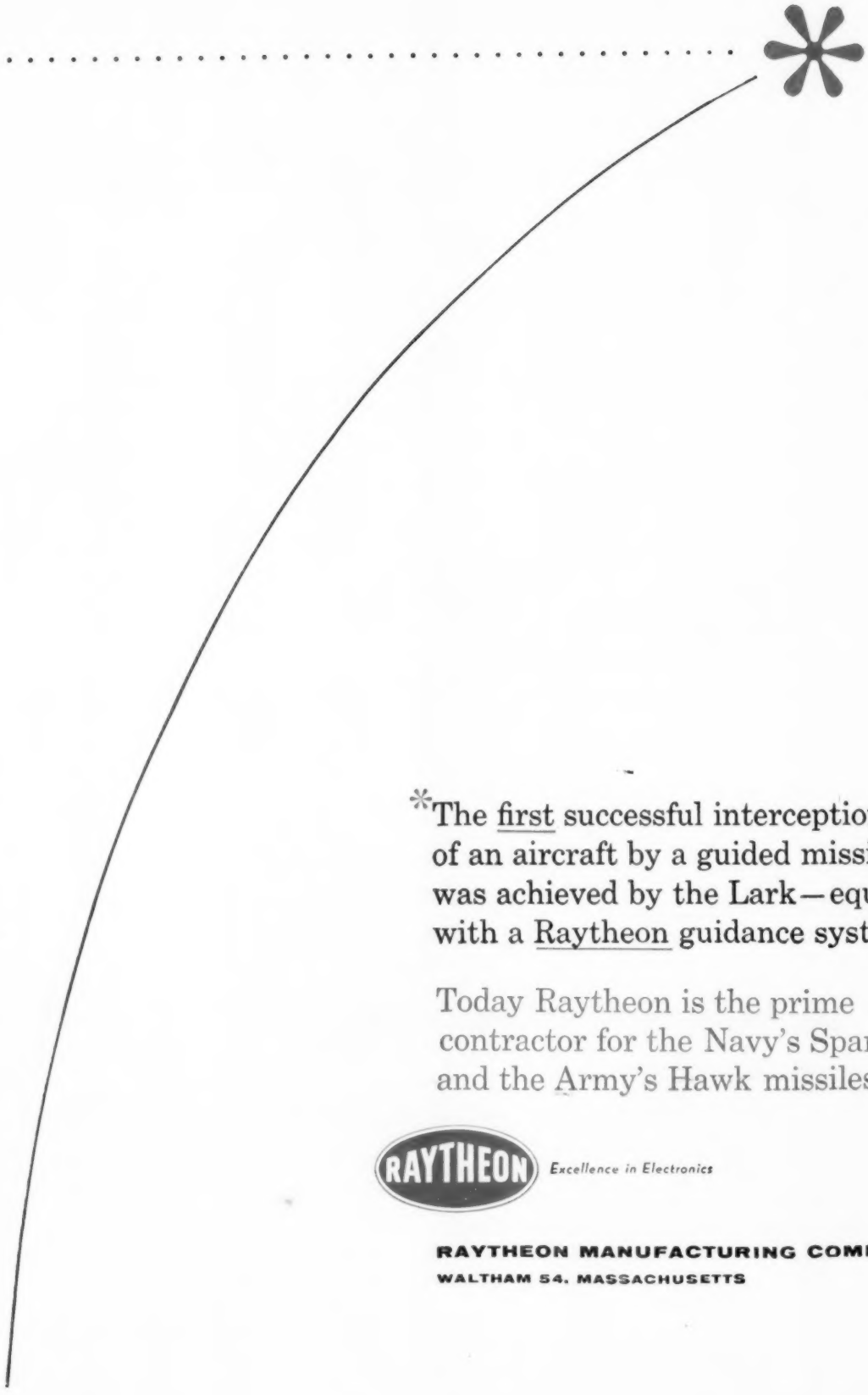
ARMY

OCTOBER 1957 50¢



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ARMY

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Vol. 8 • No. 3 • October 1957

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ARMY is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army. *ARMY magazine strives to—*

Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.

Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.

Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.

Explain the important and vital role of the United States Army in the Nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.

Advance the status of the soldier's profession.

—AUSA By Laws, Par. 13 Article II

SCIENCE & THE ARMY

The Tasks of the Army Scientist ..... *Dr. William H. Martin* **31**
Scientists Who Serve the Army ..... *John B. Spore* **34**
The Army Scientific Advisory Panel **36**

TACTICS & TECHNIQUES

Win With Your Wounded
Lt. Cols. Spurgeon H. Neel and James B. Hartgering **20**
Combat Tactics for Tomorrow's Army
Maj. Gen. Hamilton H. Howze **24**
Take the Mystery Out of CBR ..... *Capt. John R. Jarvis* **44**
Better and Faster Fire Support ..... *Lt. Col. Salvo Rizza* **55**

THE CURRENT SCENE

The Smoky Shot **38**
A Soldier-artist's impressions of Camp Desert Rock and Army participation in Shot Smoky ..... *Lt. Col. Lachlan M. Field* **40**

THE LIGHTER TOUCH

The Communist in Your Home ..... *Col. W. C. Hall* **42**

THE MONTH'S CEREBRATIONS

It's in the Book ..... *Lt. Robert R. Rafferty* **48**
All Outstanding Noncoms? ..... *Capt. Harlan G. Koch* **48**
Who's Got the Book? ..... *Capt. Change One* **50**
What's Wrong With Being Military?
Lt. Col. Edward M. Flanagan, Jr. **52**

AUSA

Report From Your AUSA CP **63**
Regional Activities **63**

DEPARTMENTS

The Month's Mail **4**
Front and Center **8**
Editorials **12**
The Army's Month **14**
Brig. Gen. S. L. A. Marshall **18**
Irons in the Fire **60**
The Month's Books **68**

THE MONTH'S COVER

Private First Class Almon Dingman, 6th Infantry Regiment, a student at Seventh Army's Noncommissioned Officers' School at Gruenwald, Germany, checks a field map before leading a combat patrol on a night mission. *(U. S. Army Signal Corps photo.)*

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THE MONTH'S MAIL

Loyal Member

● About a year ago I picked up a copy of an issue of *ARMY* which listed plans for the Second Annual Meeting of AUSA. After reading the magazine I decided I would subscribe to it and try to attend the next meeting. A few months later I did subscribe, and have been putting a few dollars aside each week looking forward to this convention.

As a specialist third class in the Massachusetts National Guard I take my military obligation seriously. In December of this year I will be leaving for six months of active-duty training. After completing this training I hope to be able to attend OCS and earn a commission. I feel that this meeting will help me achieve my goals by seeing and learning about the latest developments in our great Army.

I would appreciate it if you would send me the data on hotel accommodations and meeting plans.

SP3 GERALD R. LAUZON
Peabody, Mass.

● *Specialist Lauzon now has full information about our annual meeting and we are looking forward to meeting him there.*

Popularity Polls

"Some people at the Pentagon worry continually because the Army is the least popular of the services and they sweat out plans to right this condition," says General S. L. A. Marshall in "Men—Not Gimmicks" in the August issue. This is a very unfortunate statement because it is not necessarily true. How do "people at the Pentagon" and General Marshall know that the Army "is the most unpopular service"?

If two recent independent polls are to be trusted, the Army is a comparatively very popular service with today's teenagers.

In an Associated Press release published in the Philadelphia *Evening Bulletin* for 31 December 1955, this statement is made: "The Pentagon issued a public opinion poll tonight which confirmed its suspicion that most people don't like the military as a career. The survey, conducted by the Gallup Poll under a $19,500 contract with the Defense Department, was made to 'determine the attitudes' of adults and teenagers about life in uniform." In the 16- to 20-year-old bracket, on the question of what service they would choose, the AP lists the Gallup percentages as follows: Air Force, 34; Army, 26, Navy, 26; Marines, 7.

A more recent survey gives the Army a still higher popularity rating. In "What Young People Think," in the series by Eugene Gilbert, president of Gilbert Youth Research Company, which appeared in the Philadelphia *Inquirer* for 8 February 1957, the thinking of American youth on the draft and military service was analyzed. When asked which service they would prefer if given a choice by their draft boards, this answer is quoted: "It may surprise you that the Army won the popularity contest by a wide margin with 43 per cent of the boys naming it their first choice. The Navy, with a 21 per cent showing, was a distant second. The Air Force, with 17 per cent, was next and the Marines brought up the rear with 12 per cent." In striking an average on these two independent polls, percentages on service popularity would be: Army, 34.5; Air Force, 25.5; Navy, 23.5; Marines, 9.5; unknown 7.0.

Maybe an "agonizing re-appraisal" on the service popularity is in order by the Pentagon, the editors of *ARMY*, the American press, and even those public servants who downgrade the Army at appropriations time.

JACKSON P. SERFAS
Philadelphia, Penna.

Artillery Divisions

● Why don't we use the name "artillery divisions" for the Army missile commands such as those in the task force in Italy? Press reports indicate that these commands represent almost all branches. The importance of the task performed by these units certainly seems to warrant a major general as commander. At one stroke we could reduce confusion in nomenclature, decrease the division slice, and indicate awareness that these commands may have to operate independently.

CAPT. FRED W. RANKIN, JR.
Urbana, Ill.

What is Professional?

● I have been a member so many years now—I forget just when it all started, but in those days it was *Infantry Journal*, a good professional, informative, useful publication.

I wish I could say the same now. My associates say (and I agree) that a fresh, critical, unbiased approach is needed. We find nothing in *ARMY* that is not as easily

found in *Newsweek* and similar magazines. So, what is professional about it now?

LT. COL. T. H. EBBERT
APO 862, N. Y.

● *In answer to Colonel Ebbert's question as to what is professional about* ARMY *now, we ask him in what weekly magazine he can find articles like Captain Powers's articles on guided missiles, Colonel Mulcahy's on what makes men fight, Colonel Wickham's on the meaning of the Cordiner pay proposals, Colonel Swift's on command problems, or that by James King of ORO on the nature of limited war. All these articles appeared in recent issues of* ARMY. *In the absence of more specific suggestions we are at a loss to know just what direction Colonel Ebbert's "fresh, critical, unbiased approach" would take.*—THE EDITORS.

Enlisted Lawyers

● I take exception to the opinions expressed by Lieutenant Marlatt in his letter in the August issue, for they smack of snobbery with no basis in fact.

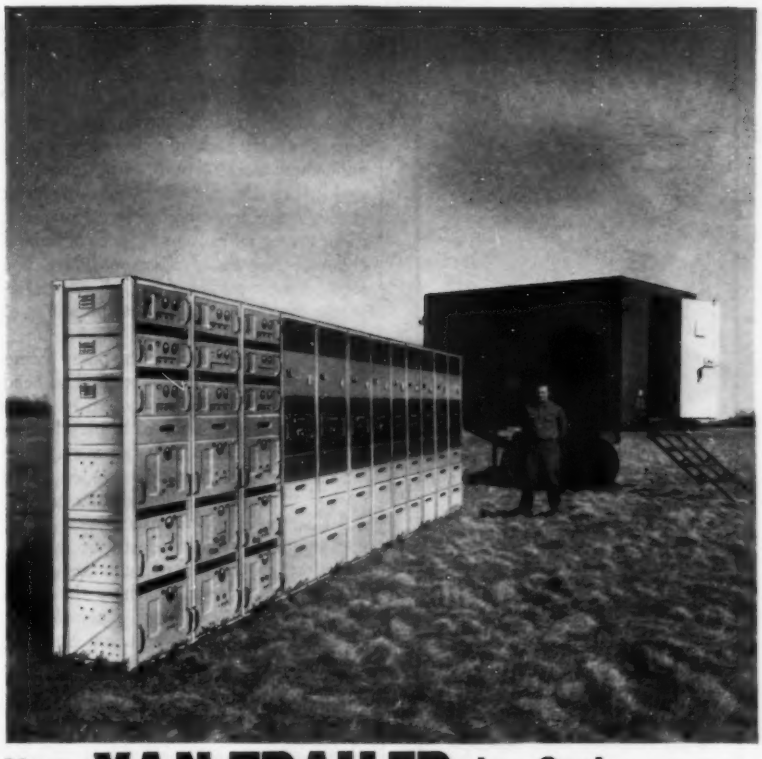
Lieutenant Marlatt is probably correct in assuming that an enlisted lawyer who, while qualified for a commission does not seek it, wants no more of the service than is forced upon him by law. However, I know that a large percentage of ROTC graduates want no more of the service than many enlisted men who are drafted. They simply took the choice of adding an extra course to their college programs, enabling them to serve their two-year obligation as officers rather than as EM.

The contention that a qualified enlisted lawyer who could but does not seek a commission "is hardly the ideal choice to administer our system of military justice" certainly bears some scrutiny. Such a man may not want any service beyond his obligated two years, but there are very few college-trained men who, assigned jobs by the Army within their specialties, will not do their best. If I were before a court-martial I would rather have an enlisted lawyer for counsel than an officer with little or no legal background.

PFC RAYMOND D. SMITH, JR.
APO 39, N. Y.

Noncommissioned Morale

● Lieutenant Cheves in "The Way to Prestige" in the August issue says: "Orient our noncommissioned officers on the true relationship between responsibility and prestige. Reduce or transfer to specialist ratings those who are unable or unwilling to seek and accept responsibility. Make promotions hard to get. Clean out the trash and give the good men responsibility. When this has been done, and not before, our noncommissioned officers will have real prestige." I appreci-



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Van Trailer LM-105, front view, with jacks in position.

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ate the consideration tendered noncommissioned officers to enhance their prestige, responsibility and virtue. But do you really believe that solution is a simple one?

Have you ever observed noncommissioned officers picking up cigarette butts and matchsticks or performing other menial police duties when men of lesser grades were available? Have you seen them acting as runners to get coffee and cigarettes for their superiors? Have you seen senior noncommissioned officers severely reprimanded in the presence of subordinates?

These are just a few of the many things that help break a man's morale. The need to weed out the trash is certainly recognized, for every barrel of apples has its rotten one. I feel that on the average the majority of our first-three-graders have proved capable of holding their grades, but I'll grant there are exceptions. As for men who were awarded stripes through no effort on their part, who are misassigned or in a position where they cannot be effectively utilized, I say to their superiors, use them as best you can. But if a noncommissioned officer shirks responsibility or proves himself no leader, bust him. Then, and only then, replace him with a man who has proven he has the necessary qualities. A man gets to know another's abilities through day-to-day association. Therefore, promote only on the basis of efficiency, proven leadership qualities, acceptance of responsibility, and the manly virtues.

The situation that now exists among our noncommissioned officer corps is regrettable. I can remember when a sergeant did not enter a squadroom, or otherwise associate with soldiers of lesser grade except in the performance of official business. He had to be able to perform any given task he required of a subordinate, and would never give an order he himself would not have obeyed. Many of us remember that these men had special privileges and many liberties. Off duty their time was their own and they accounted to no one. Only a few years back a soldier with the service, experience and responsibility of a noncommissioned officer followed the rules of right and wrong. If he stepped out of line corrective action was swift and no excuses offered or accepted.

I sincerely hope the Army's prestige program does not lessen efficiency and waste experience. We must use the efficiency and experience in our ranks by strengthening our noncommissioned officer corps—the backbone of our Army.

MSgt Roy Brattain, Jr.
Oklahoma City, Okla.

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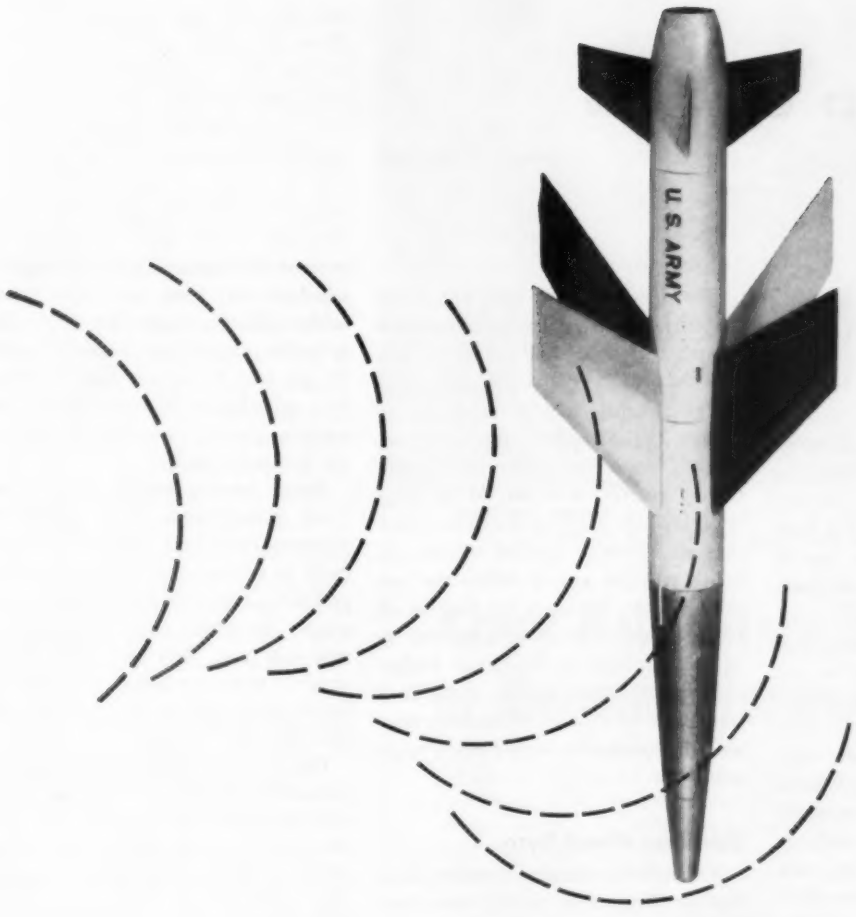

NEW WEAPON, NEW CONCEPT

An important new weapon for a new U. S. Army concept is now being delivered in quantity by Martin-Orlando. This is LACROSSE, a field artillery guided missile, developed to implement the combat concept of the Pentomic Army...a "fighting" Army consisting of self-sufficient highly mobile battle groups. LACROSSE will provide these battle groups with the shockpower of extraordinary speed, mobility and accuracy in heavy armament support of their operations. LACROSSE is the first generation of an entirely new kind of general purpose weapon. All of its components, consisting of the missile mounted on a standard Army truck and a guidance system, can be airlifted to advance areas. The missile is fired in the general direction of the target—without target data at the launching site. Its pinpoint accuracy is controlled by a forward observer. The Martin Company, with more than 10 years of design, production and operational experience in guided missiles, today stands as a leader in this important field.

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FRONT AND CENTER

Science and Security

As we went to press we happened on a statement by the Chief of Staff that points up the significance of the reports we bring you this month on the work of Army scientists by Dr. William H. Martin *(page 31)* and the Army Scientific Advisory Panel *(page 34)*. Testifying before a Senate Subcommittee, General Taylor emphasized that the United States cannot remain secure unless it has the ability to outstrip the enemy in the quality of its weapons systems.

"Our research and development programs are the means by which we seek to maintain this vital superiority," General Taylor advised the Senators. "Their most significant product is the new, complicated, and expensive systems of weapons which are fast being translated from blueprints into tangible hardware. In view of the evidence of Soviet progress in this field, we can never afford to be complacent about our successes, brilliant though they often appear. We must never relax our efforts, being sure that the enemy is always doing his best."

General Taylor also told the Senators that in shaping the new Pentomic divisions, the Army had included a capacity for absorbing progressively the new weapons which are expected to emerge in the next few years. "In the interim we will equip our divisions with the best weapons available while we expedite the development and production of the optimum types," he said.

The Other Side of the Hill

The human brain can remember only so much, assimilate, connect, compare and collate only so much in a given period of time, and because modern combat intelligence requires so much raw information, a modern intelligence system uses punch cards.

A recent demonstration in machine collection of intelligence material given by the U. S. Army Intelligence Board followed five months of experiment.

The problem of the men who direct the machines is to give the commander enough current information to let him decide *where* to go and *with what*.

The battlefield uses of the system are infinite. For example, a commander decides to take positive action to stop continuing guerrilla activities. At the press of a key, his Machine Collection Unit presents him with detailed information on all guerrilla activity within the past three months. He has at his disposal all actions, times, map coordinates, and so on. He can begin an immediate evaluation, a process that formerly would have taken days. In a matter of hours or minutes, the commander knows *where* to go *with what*.

Opinions About Gyro

The Adjutant General recently polled fourteen Army units, ranging from division to battalion, scheduled to switch overseas and Stateside posts on a regular schedule every three years. Most career soldiers like Gyroscope, but would like to see the program include smaller units; 75 per cent favor unit rotation rather than individual replacement. Most of the soldiers queried were married and in the first three grades.

Family housing was the prime factor in all considerations for or against the program. The largest number feel assignment to a Gyroscope unit solves their problems of quarters for dependents and assures concurrent travel, regardless of next duty post. Only about half prefer to return to a home station. The majority believe Gyro units are more efficient, and that unit pride is higher.

Opinion was divided as to speed of promotions, or whether stabilized rotation stimulates reenlistments. One disadvantage to Gyro assignment is inability to transfer for better advancement opportunities. Two thirds of the troops would rather be members of a

At Camp Perry, Ohio, scene of the National Rifle Matches, the Chief of Staff greets a member of the Eighth Army team, Sgt Roy C. Ambler. Army shooters representing the "Blue" team scored 1440 out of 1550, a record, to win the National Trophy Team championship. The members of the "Blue" team are all assigned to the All-Army rifle squad at Fort Benning. Other Army shooters won other trophies.

small than a large unit. Primary reasons for joining Gyroscope units: to be with friends for a longer time, the desire for housing, and to serve in a favorable location outside ZI.

Seven out of ten approved of belonging to a permanent combat outfit with a historic background. Men in higher ranks and with longer service hold this association to be more significant.

ROTC Postgraduate Study

Army ROTC members who want to pursue postgraduate work may now apply for a delay of not more than three years after they graduate before reporting for active duty. Previously this privilege has been limited to students doing technical research and scientific graduate work but it is now open for graduate study in any recognized field at degree-granting institutions. Applicants will be required to show that they have reasonable chance of acceptance for graduate study.

New Academy Selection System

All competitive appointees to the U. S. Military Academy beginning with the class entering next July will be selected under a new three-point method designed to improve the caliber of cadets.

The new system will affect about 15 per cent of each class, or approximately 100 vacancies. In the future competitive appointees will be chosen on the basis of their mental abilities, physical aptitude, and leadership potential! In the past only the scores attained on the College Entrance Examination Board mental tests have been used to establish merit for entrance in the competitive-nomination categories, which include men named by the President of the United States, those from the Regular and reserve components of the Army and Air Force, sons of deceased veterans, and graduates of Honor Military and Honor Naval Schools.

A Hot Meal?

U. S. soldiers will get their first taste of the Army's experimental irradiated food in a troop acceptance test to be conducted this winter by the Quartermaster Research and Engineering Field Evaluation Agency at Fort Lee, Va. The exact dates of the feeding test, designed to establish that food preserved by nuclear irradiation is acceptable to troops on a

Trapped and disabled in heavy floe ice off the coast of Greenland, the crew of the Polarbjoern disembark and await rescue by U. S. Army helicopter

Army Helicopters Rescue Crew of Doomed Norwegian Freighter

Late in August the Norwegian freighter Polarbjoern (Polar Bear), en route from the weather station at Cape Berghaus, Greenland, to its home port of Aslesund, Norway, was trapped by pack ice off the east coast of Greenland. For seven days the ship drifted with the ice, waiting for a chance to break free. When the ice finally crushed the Polarbjoern's wooden hull, her master, Captain John Giaever, radioed for help. The U. S. base at Thule was asked to help in the rescue of the 23 passengers and crewmen who had abandoned ship and were living on the ice.

Lt. Col. Joe Flake, Commanding Officer of the U. S. Army Transportation Corps Arctic Group at Thule, supplied a Sikorsky H-19 helicopter and crews.

Refueling at an advanced refueling base set up by the Danish Navy cutter, Teisten, the helicopter flew over thirty-two miles of open water and ice floes between the Polarbjoern and the shore. Landing on the ice near dusk, the pilot was able to make only one rescue flight carrying out four men. Returning in the morning, the helicopter made the two-hour round trip five more times.

The master of the Polarbjoern, Capt. John Giaever, thanks Col. Johnston and members of the crew for the well executed rescue operation

Lt. John A. Johnston made the first rescue flight with CWO Donald R. Joyce and PFC Robert G. Rogers as members of the crew. Subsequent flights were made by Lt. Johnston, Mr. Joyce and WO Jack S. Gibson, with MSgt. Carl V. Byrd and Sp3 Edwin J. Daugherty as crew chiefs.

For Army Aviation, whose rescue missions have included the feat of flying to the bottom of the Grand Canyon to carry out the bodies of the victims of a mid-air collision of two large commercial passenger aircraft, this was just another job well done. In addition to the smartly executed task of saving 23 human beings from possible death on the Arctic ice, the performance attested again the versatility of the ubiquitous Army helicopter and the skill of the men who fly and service them.

At Red Canyon Range, N. M., where Nike missilemen from Army Air Defense Command units practice their marksmanship, a crew moves a missile to join its solid-propellant booster in preparation for firing. Red Canyon is the scene of year around activity as Nike battalions move in and out for practice firing. Each battery fires three missiles, two from "hot starts"—with equipment warmed and tuned in advance. These two missiles must be fired within 15 minutes after the battery is notified that a target is approaching. The third missile is fired from a "cold start" with ground guidance equipment turned off at least two hours before the shoot is ordered. Targets are RCATs and simulated targets that challenge the Nikemen with speeds as high as 1,100 knots.

basis of flavor and texture, will depend on the availability of food to be tested.

The initial test will be confined to a single item which will be served several times during a thirty-day period as part of a regular Army meal. The same dish also will be served several times in its usual form. The participants will not be informed as to when they are getting the irradiated rations.

This experimental food, subjected to ionizing radiation to kill or inactivate the microorganisms responsible for spoilage, has been taste-tested by military and civilian personnel of both the Quartermaster Corps and the Medical Corps over a period of more than four years.

Help to Survivors

Complaints reaching Washington from survivors of deceased Army personnel indicate that immediate contact is not being made, and full assistance is not being given to eligible survivors in all cases. The objectives of the survivor assistance program are set out in AR 608-12, and its appendix contains a typical Survivor Assistance Report which can be used as a monitoring aid.

Survivor assistance officers must be competent, dependable, and sympathetic with the program's objectives. They must make immediate contact with the family to offer advice and assistance in arranging for funerals and military honors, and in obtaining emergency financial aid for survivors where it is needed. Subsequent visits should be made to help process applications for various benefits to which an eligible survivor may be entitled, and the case not considered closed until all possible help is rendered. Intermediate headquarters can greatly assist the program by expediting related correspondence, for the timely receipt of essential information by survivor assistance officers will greatly aid them in their contacts with the family.

Tides Test Beach Delivery

During the past summer season the world's third largest tidal change, in Frobisher Bay, Canada, which reaches as much as 39 feet, tried the mettle of the U. S. Army Transportation Corps.

Resupplying the Air Force facilities on Baffin Island, the stevedore soldiers made over-the-beach delivery of cargo, which had previously been done by amphibious barges (BARC), with LCM and LCU harbor craft.

Cross currents and the extreme, swiftly changing tide demanded detailed timing to beach the harbor craft high enough on the long, sloping shore to discharge their cargo into vehicles. Missing high tide meant a twelve-hour delay.

This operation gave the Transportation Corps a unique beachhead experience (the tide in Frobisher Bay is exceeded only by the Bay of Fundy and Inchon), and tested its resources to the utmost, requiring exact knowledge of the weather and tides; cooperative scheduling of loading at the cargo ships and dispatch of harbor craft; and the pacing of operations to conserve and utilize available manpower to its fullest potential.

General Officer Shifts

Lt. Gen. Lemuel Mathewson to Sixth Army . . . **Maj. Gen. Haydon L. Boatner** to OTPMG . . . **Maj. Gen. Edgar C. Erickson** to Chief, NGB . . . **Maj. Gen. James C. Fry** to OACS . . . **Maj. Gen. Eugene W. Ridings** to Sixth Army . . . **Maj. Gen. Bernard L. Robinson** to OCOFENGRS . . . **Maj. Gen. Thomas J. Sands** to 7th Infantry Division . . . **Maj. Gen. Harry P. Storke** to OCINFO . . . **Maj. Gen. John K. Waters** to USCONARC . . . **Brig. Gen. Charles E. Beauchamp** to Army Council of Review Boards . . . **Brig. Gen. Frank H. Britton** to OCRD . . . **Maj. Gen. Clarence P. Canby** to WRAMC . . . **Brig. Gen. Forrest Caraway** to Fort Riley, Kansas . . . **Brig. Gen. Albert F. Cassevant** to USA Signal School . . . **Prof. (Brig. Gen.) Gerald A. Counts** to Dean, Academic Board, USMA . . . **Brig. Gen. Paul A. Gavan** to USAREUR . . . **Brig. Gen. William A. Harris** to XVIII Airborne Corps . . . **Brig. Gen. Stuart S. Hoff** to OCSIGO . . . **Brig. Gen. Andrew T. McAnsh** to Fort Leonard Wood, Mo. . . . **Brig. Gen. John H. McGee** to 4th Infantry Division . . . **Brig. Gen. John D. F. Phillips** to Eighth Army . . . **Brig. Gen. Herbert L. Scofield** to Utah General Depot . . . **Brig. Gen. Fred W. Sladen, Jr.,** to Fort Ord, Calif. . . . **Brig. Gen. Alfred D. Starbird** to Germantown, Md. . . . **Brig. Gen. Robert N. Tyson** to Eighth Army . . . **Brig. Gen. Mercer C. Walter** to Chief, USMAS, Yugoslavia . . . **Brig. Gen. Philip C. Wehle** to USA Artillery and Missile School . . . **Brig. Gen. Kenneth F. Zitzman** to ICAF.

Retirements

Lt. Gen. Robert N. Young . . . **Maj. Gen. Nathaniel A. Burnell** . . . **Maj. Gen. Einar B. Gjelsteen** . . . **Maj. Gen. William H. Maglin** . . . **Brig. Gen. Arthur L. Irons** . . . **Brig. Gen. Frank C. McConnell.**

Night mobility and combat power are provided for both men and tanks by infrared devices developed by ERDL.

ENGINEER RESEARCH AND DEVELOPMENT LABORATORIES AT FORT BELVOIR FURTHER SCIENCE OF MOBILITY

Mobility is a byword at the Engineer Research and Development Laboratories, the principal military R & D center of the Corps of Engineers, U. S. Army. Work in seventeen fields of endeavor is aimed at furthering the mobility of our forces, and impeding the movement of the enemy. These fields are: bridging and stream crossing, cover and concealment, construction and maintenance equipment, infrared, liquid fuels distribution, mapping and geodesy, materials, mine warfare and demolitions, buildings, processing and packaging, water supply and sanitation, special weapons and general engineering.

About 1,500 civilians, 50 officers and 200 enlisted men work at the Laboratories. An 800-acre proving ground provides facilities for testing earthmoving, firefighting and illumination equipment, obstacles and demolitions, and mine warfare items. Environmental testing under arctic, desert, and tropical conditions is accomplished by detachments of Fort Churchill, Canada; Yuma, Arizona; and in Panama, respectively. Facilities in Greenland are employed for operational testing of construction and navigation equipment for ice cap requirements. At Prince, West Virginia, there are facilities for bridge testing. A branch at Wright-Patterson Field, Ohio, coordinates ERDL and Air Force aerial photographic activities.

Typical of ERDL's work are target location systems and equipment being created by its Topographic Engineering Department—where means of accurately locating the enemy by use of drones and many other techniques are under constant development. In other departments, vehicular navigational systems, construction equipment capable of being air-dropped, and mobile assault bridges are being developed, and the effects of atomic weapons are being determined. Many hundreds of other projects are under way at ERDL, helping to keep the Army of the United States second to none.

This is one of a series of ads on the technical activities of the Department of Defense.

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EDITORIAL

TWO BOOKS THAT SUPPORT OUR STORY

THOSE people who have always tried to find a substitute for armies thought the atomic bomb had done the trick in 1945. But strangely enough a long and bloody conflict was fought by ground armies on the Korean peninsula only five years later. Even more strangely these same people still found reasons for explaining that Korea would indeed be the last of the wars fought between armies. The megaton bomb, globe-girdling bombers, and the coming age of missiles would see to that, or so they said.

Then came the policy of "massive retaliation at times and places of our own choosing." This was a concept that seemed heaven-sent to those who were hell-bent on discarding armies. Others took a longer look and began to expose some of the fallacies in it, principally that all-out war wasn't the answer to creeping aggression. The anti-army people found an answer for that one, too, and it was that the instruments used to deter the big war would be just as effective in a little one.

The appearance in the past few months of two books that rigorously expose the humbug in the idea that "if we are ready to fight the big war we'll be able to take care of any little one that comes along" is heartening evidence that some people see that this idea has about the same content of risk as its kissing cousin, "massive retaliation." The two books are Henry Kissinger's *Nuclear Weapons and Foreign Policy*[1] which has had good reviews and favorable comment nationally, and *Limited War*[2] by Robert Endicott Osgood of the University of Chicago.

A quotation from each book will serve to display the shot and shell the authors turn on the theory that limited wars can be fought with instruments designed for the big one.

Our choice of a selection from *Nuclear Weapons and Foreign Policy* examines the difference between the requirements of total war and limited conflicts.

Dr. Kissinger:

> . . . the nature of the weapons, the planning and the concept of operations differ radically between forces useful for all-out war and those which should be ready for limited war. The weapons system for all-out war is designed to inflict maximum destruction in the shortest possible time. The weapons system for a limited war, on the other hand, should be flexible and discriminating. In an all-out war the targets are known in advance, in fact each crew of the Strategic Air Command is training for a specific Soviet target all the time. Everything depends, therefore, on the efficiency with which the plan for all-out war can be implemented. In a limited war neither the locale of the conflict nor the targets can be determined in advance. Everything here depends on the rapidity with which planning can adjust to a developing situation.
>
> The strategic problem in limited war is to apply graduated amounts of destruction for limited objectives and also to permit the necessary breathing-spaces for political contacts. Hence a weapons system for limited war is basically different from a retaliatory force. Limited wars require units of high mobility and considerable firepower which can be quickly moved to trouble spots and which can bring their power to bear with discrimination. The capability for rapid deployment is crucial. For, given the power of modern weapons and the speed of movement of military units, everything depends on seizing a position as rapidly as possible because it will be very difficult to dislodge an enemy once he has become established. Since aggression is unlikely to occur unless the aggressor doubts either the capability or the willingness of its opponent to intervene, the ability to get into position rapidly even with relatively small forces can serve as a gauge of the determination to resist and contribute to the re-establishment of an equilibrium before either side becomes too heavily committed.

From *Limited War* we choose a few paragraphs (out of many) that go beyond demonstrating the need for mobile and flexible forces and examine the question of the use of ground armies armed with small yield nuclear weapons.

Dr. Osgood:

> Under existing technological conditions, one essential requirement of a flexible military establishment is sufficient numbers of ready combat troops to check Communist aggression locally. If we cannot check aggression locally, we shall be compelled to run larger risks of total war by striking at targets beyond the area of combat that support the aggression, unless, of course, we choose to acquiesce in defeat. It follows that the greater our capacity for local military containment, the better we shall be able to minimize the risk of total war. Some advocates of tactical air power notwithstanding, there is little military support for the view that "mobile striking power" can provide this capacity in the absence of substantial ground strength—except, perhaps, in a very few island and peninsular positions, such as the Formosa Straits, with naval support. The Korean War is only the latest war to demonstrate this fact.
>
> However, if we recognize the desirability of possessing ground strength capable of checking aggression locally, we must also recognize that we cannot realistically expect to achieve this condition of limitation in all areas of potential aggression, since we cannot count on the free world mobilizing sufficient manpower for the purpose. However, this drawback is rendered somewhat less significant by the fact that western Europe, the area in which local ground defense

[1] NUCLEAR WEAPONS AND FOREIGN POLICY. By Henry A. Kissinger. New York: Harper & Brothers, for Council on Foreign Relations, 1957. 455 Pages; Maps; Index; $5.00.

[2] LIMITED WAR: THE CHALLENGE TO AMERICAN STRATEGY. By Robert Endicott Osgood. Chicago: University of Chicago Press, 1957. 315 Pages; Index; $5.00.

is least likely to be feasible, is of such great strategic importance and so uncongenial to limitation on other grounds that we shall have to rely primarily upon the deterrent of massive retaliation for its defense anyway.

At the same time, we need not conclude that our relative numerical deficiency in ready, mobilized manpower precludes successful local ground defense in all areas. That would be true only if we had to match the Communists man for man. But the experience in Korea confirmed the lesson of other wars that troops with superior firepower, technical skill, and logistical support can hold forces several times as numerous. Throughout the gray areas our superior mobility and our superior ability to train, equip, and supply troops can go a long way toward compensating for numerical inferiority. Indeed, in the light of this superiority, considered in conjunction with the growth of Communist air power, some students of military strategy have suggested that we may actually enjoy our greatest potential advantage in ground warfare.

In considering the requirements of a flexible military establishment, the role of tactical nuclear weapons looms large; for the adaptation of these weapons to limited war is probably the most crucial problem of weapons and targets limitation that American strategists face today. At some future time the role of other kinds of weapons—perhaps weapons that have not as yet been designed—may be equally important, but for the foreseeable future the peculiar importance of tactical nuclear weapons lies in the fact that they carry greater promise than any other weapon of enabling us to fight limited wars on an equal basis against numerically superior forces. And yet we know very little about their actual effects on the battlefield. Therefore, what follows, in an attempt to assess the role of tactical nuclear weapons, is necessarily speculative.

In official statements dealing with the military efficacy of tactical nuclear weapons, it has frequently been claimed that they will compensate for our numerical inferiority in ground troops. When the Truman administration made this claim, it seemed to be thinking primarily in terms of supplementing the firepower of the ground troops in Europe; whereas the Eisenhower administration stressed the substitution of "mobile striking power"—that is, air and sea action—for ground forces in Asia. We have just observed that the validity of the latter conception is dubious, except under very special circumstances. As for tactical nuclear weapons being used in conjunction with ground troops, it is undoubtedly true that they will provide a given number of troops with more firepower than conventional weapons; and to this extent they compensate for our numerical inferiority in comparison with Communist ground forces. However, they do not obviate the necessity of having a minimum number of troops available to compel the enemy to concentrate his forces, to cover the routes of attack, to provide for a strategic reserve, and to perform many other tactical functions that conventional forces would have to perform. Although the tactical employment of atomic weapons is still in an experimental stage, the experience so far does not indicate that the minimum number of troops needed to defend any particular theater of operations will be substantially smaller than would be necessary in the absence of atomic weapons; and some authorities, like General Ridgway, even believe that the successful exploitation of these weapons will require more, not fewer, troops.

Aside from these considerations, there are other reasons for taking a qualified view of the military efficacy of tactical weapons. For one thing, they are no answer to irregular warfare—to the kind of insurrectionary and guerrilla activity upon which the Communists prefer to rely in the early stages of a campaign of expansion. Nor do they meet the needs of intervention in a war fought by non-Communist powers, such as might occur in the Middle East. Furthermore, even in the case of orthodox, direct Communist assaults it is by no means certain that it will always be to our advantage to use tactical weapons if, by doing so, we lead the enemy to use them also. . . .

CLEARLY the problem posed by these two students is how to create ground forces capable of fighting a war in which tactical atomic weapons may or may not be used. This means Army forces that have strategic and tactical mobility; that can respond effectively to command, though dispersed far beyond what was considered feasible in previous wars; that can combine the fire of modern weapons with the maneuver of fast moving ground combat units. In short, the forces that can defend the best interest of the nation and achieve its objectives without incurring the risks of an all-out war in an age of megaton bombs.

All this is precisely what the Army is endeavoring to do today.

The development of atomic weapons made a deeper combat zone absolutely necessary. The development of Army surface-to-surface missiles made it possible for artillery to extend its reach. Army Missile Commands, a few already in being, are the Army's answer to this problem.

The Army created Pentomic divisions in order to take full advantage of these added dimensions of firepower. These divisions are designed to move fast in the attack, to concentrate on the objective only briefly, and then to disperse fast.

To synchronize the mobility of the maneuver elements and missile firepower within the deeper battlefield, the Army took to the air. This is the reason the Army is stressing the use of aircraft and is exerting every effort to get air vehicles that can fly "slower and lower" and can carry heavier payloads. Army aviation isn't growing because it is fashionable today to take to the air, but because the Army needs air mobility to carry out its ground fighting missions.

Many of the people who insist armies are out of date are the same critics who say the Army has been far too slow in adjusting to the atomic age. Perhaps so, but also perhaps these critics have never cared to examine closely the very real and tremendously complex problems the Army has had to solve in making its adjustment. Perhaps these critics have never fully understood that strategic and tactical air mobility and longer-range missiles are the very crux of the Army's adjustment.

These critics have shown that they cannot comprehend what has happened over and over again: that new weapons, machines and concepts that are supposed to put an end to armies have a way of reinforcing the need for soldiers who carry the fight to the enemy on the ground. And so while we sadly admit that we don't anticipate that these two books will convert those who refuse to be converted, we do commend to you the hard thinking and rigorous reasoning of Henry Kissinger and Robert Endicott Osgood.

THE ARMY'S MONTH

Ken Fox, military reporter of *The Kansas City Star,* recently asked why it is that statements of Army officials are so often defensive. "It's a bit saddening to see the proud United States Army so much on the defensive," Mr. Fox wrote. "For what it might be worth, [I] would counsel the leaders of the ground arm to cling fast to their pride, traditions and belief in their own future. There'll always be a U. S. Army."

The loss of dental care for civilian dependents has "caused many servicemen to complain of being deprived of a benefit which they were led to believe at time of entrance into the Service would be provided," the Army reported to a Defense Department committee which is studying the problem.

Since the Dependent's Medical Care program went into effect last December, more than $19 million has been paid for the treatment of more than 100,000 dependents. Hospital payments were $10.7 million and payments to physicians $8.8 million. It has been reported that 42 per cent of the hospital claims of dependents come from families who are separated from their husbands and fathers by the requirements of the service.

Mandatory inoculations against Asiatic flu have been ordered for all members of the Army. Initial distribution of vaccine is now being made and by the end of October most Army members will have received the first of two inoculations. The second inoculation, necessary to increase immunization among personnel concentrations, is expected to be completed by 31 December.

Since it was first authorized in 1952, the Army's Cooperative Education Program has mushroomed to 30 Army installations and 59 colleges and universities. This work-study plan permits selected men and women to hold Department of the Army jobs while they attend college. After graduation, they are offered DA civilian jobs as professional engineers or scientists at $4,480 a year with eligibility for a raise to $5,335 after three months' work. The program is proving valuable because the Army is getting a good return for each labor-dollar invested, while at the same time developing a pool of young college graduates to fill its engineering and science positions.

In a series of articles on U. S. missile developments and especially the differences existing between the Army and the Air Force, Scripps-Howard writer Douglas Larsen took note of the controversy involved in the methods used by the two services in developing and building missiles. Whereas "the Air Force relies on private industry—the large aircraft companies—the Army uses a combination of private industry and its own Ordnance arsenals which for many years have developed most Army weapons and equipment," Larsen reported. He then briefed the positions of both services in these words: "Air Force spokesmen say that research and development of missiles flourish best in the free, competitive atmosphere of private industry. The Army feels that missiles use almost all the skills and experience accumulated in its arsenals in ballistics, metallurgy, precision work, propellants, warheads, electronics, fuses, hydraulics and fire control, among many other fields of science and technology."

A recent change to AR 614-30 provides that enlisted personnel returning to CONUS or territory of residence from foreign service, who have completed at least *five-sixths* of a normal foreign service tour, will serve a minimum of 18 months from date of return before again becoming eligible for involuntary foreign service.

The Army has established the Dr. Ralph Mershon Memorial Award, to be awarded annually to the most outstanding ROTC graduate entering the Regular Army. The late Dr. Mershon, of Zanesville, Ohio, electrical engineer and inventor, was a life-long advocate of civilian military education and former member of the Joint National Commission for the Reserve Corps of Engineers. A graduate of Ohio State University, he established with that institution the Mershon Fund to be used for the furtherance of civilian military education. The award, a certificate and $250 in cash, will be presented each year in January by the Secretary of the Army to the most outstanding ROTC graduate who accepts a Regular Army commission during the preceding calendar year. Selection will be based on evaluation reports submitted by Professors of Military Science and Tactics and summer-camp commanders following the officer's graduation.

Officers promoted during 1932, '33, '34, who did not receive pay increases as a result of their new rank, can now collect back pay. Public Law 85-255, signed by the President, authorizes the payment of $1.4 million for losses in pay resulting from a misinterpretation of the Economy Act of 30 June 1932 which suspended automatic increases in compensation of government employees. The Act was erroneously applied to include increases in pay as a result of promotion in the armed forces. This new development affects some 2400 active and retired officers or their survivors.

Four Army newspapers have been selected from over 1,400 service publications for the Department of Defense Newspaper Award for the last quarter of fiscal year 1957.

Picked as outstanding publications were:

Taro Leaf, the 24th Infantry Division's newspaper in Korea, in the Letterpress Overseas class.

In the Mimeograph Stateside class, the *Observer,* 617th Field Artillery Battalion, Fort Sill, Okla.

Falcon, a publication of the 1st Medical Group at Verdun, France, in the Mimeograph Overseas class.

In the Direct-Plate Multilith class the *43rd Horizon* of the 43rd Medical Group, Fort Lewis, Wash.

Enlistment of aliens into the Army has been extended by Congress to 1 July 1959.

An incurable virulent disease—rabies—with bats as a suspected source, has been under extensive study for the past four years by Army medical specialists at the Fourth Army Medical Laboratory, Fort Sam Houston, Texas. The discovery of rabies among bats in this country is a comparatively new development, although rabies in blood-sucking vampire bats has long been recognized in Central and South America. The Army scientists have made much headway in the complicated task of proving whether or not bats are a prime source in the transmittal of rabies to animals and humans.

To recognize civilians who contribute significantly to the Army but are not members of the Army family, two Distinguished Public Service Awards have been officially designated. The Distinguished Civilian Service Medal, with rosette and citation certificate, represents the highest form of recognition to a civilian for outstanding service which contributes substantially to the accomplishment of the Army's mission. It is awarded by the Secretary of the Army. The Certificate of Appreciation, awarded by major commanders and heads of DA agencies in behalf of the Secretary, is presented for distinguished services contributing to the accomplishment of the mission of an installation, command or staff agency, or to the welfare of Army personnel. A lapel button and brief citation accompany this Certificate.

AUSA'S 1957

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The 1957 Annual Meeting of the Association of the U. S. Army will be the biggest all-Army show in history. A top-notch program of high professional interest has been arranged and it's one you won't want to miss.

You'll hear important addresses by Secretary of the Army Wilber M. Brucker and the Army's Chief of Staff, Gen. Maxwell D. Taylor. Gen. Lyman L. Lemnitzer, the new Vice Chief of Staff, will discuss "The Role of the U. S. Army in Support of Its Allies." The Commanding General of the Continental Army Command, Gen. Willard G. Wyman, will give you an assessment of the progress which is being made in the reorganization of our combat units. "Army Missiles In Air Defense" will be discussed by Lt. Gen. S. R. Mickelsen.

You'll hear a stimulating panel discussion on "Strategy, Weapons and Policy" from an outstanding panel group consisting of Dr. Frank Barnett of the Richardson Foundation, Brig. Gen. David Sarnoff, Chairman of the Board of RCA and Dr. Henry Kissinger of Harvard University, author of the best selling "Nuclear Weapons and Foreign Policy." Another outstanding panel will discuss automation and its application to army use.

Dr. S. N. Alexander, of the National Bureau of Standards, Lt. Gen. E. T. Williams, Deputy CG of CONARC, and Maj. Gen. J. D. O'Connell, the Army's Chief Signal Officer, will make up this panel.

There will be a full-scale examination of the problems involved in "Army Compensation and its Relation To Future Security" by a panel of experts which will be of great interest to you personally. "The New Role of The Reserve Forces" will be the subject of still another presentation.

Over 16,000 square feet of industrial exhibits will be another feature of the meeting. Many of the nation's leading manufacturers will be displaying the latest in hardware items and production techniques which contribute to the continuing progress of the Army.

You'll have an opportunity to meet the Secretary of the Army and the Chief of Staff at the annual reception in their honor. You'll enjoy the colorful annual banquet which will wind up the meeting. The AUSA annual meeting is a fine chance to see all of your old friends and make some new ones.

PLAN NOW TO ATTEND

1957 All-Army Exhibits At Fort Myer

The year's biggest display of new Army weapons, vehicles and equipment will be featured at the All-Army Exhibits which will be held in conjunction with AUSA's Annual Meeting. These exhibits will occupy more than 25 acres at Fort Myer, Virginia. They will be open to the public daily during the entire week of October 27 through November 3. In addition to the exhibits there will be dynamic demonstrations, parachute jumps for the children and three shows daily. You'll see many new items that have not yet been issued for field use.

The Annual Meeting program has been arranged to allow ample time for you to visit these exhibits and transportation will be provided to the exhibits from the hotel.

REGISTER NOW

HOTEL RESERVATIONS

Requests for hotel reservations must be made *directly* to the Sheraton-Park Hotel, Washington 8, D. C.

SHERATON-PARK RATES

Single with Bath:	$7.50 to $10.50
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Special military rates are available upon request to those in uniform or presenting *active-duty* ID cards when checking in.

AUSA cannot accept requests for hotel reservations.

MILITARY QUARTERS RESERVATIONS

BOQ and enlisted military quarters are available through AUSA. Persons desiring such quarters must so indicate in advance registration application.

Requests for advance registration will be accepted, subject to the following conditions:

1. **Requests for advance registration will be accepted from MEMBERS ONLY. Your application for membership may accompany your reservation request.**
2. **Payment in full must accompany application. Checks should be made payable to: Association of the U. S. Army.**
3. **Registration will be confirmed by mail. Tickets and other materials may be picked up at the AUSA Registration Desk, Sheraton-Park Hotel, after 1200, 27 October 1957.**
4. **No advance registrations can be accepted after 10 October.**
5. **Application must clearly show for which events you wish tickets and how many tickets are desired for the banquet.**

TICKET PRICES

	Civilian	Military
Registration	$ 3.00	$ 1.00
Reception, 28 October	3.00	2.00
Luncheon, 29 October	4.00	3.50
Banquet, 30 October	10.00	7.50
Total for all events	$20.00	$14.00

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Advance Registration Coupon

To: AUSA, 1529 18th St., N.W., Washington 6, D. C.

Enclosed please find $_____ in full payment of my advance registration for the Annual Meeting as well as for the tickets indicated below:

Reception_____ Luncheon_____ Banquet_____ (Show number of tickets desired)

If you wish to reserve quarters on a military reservation, check here_____

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Full Payment Must Accompany This Form

Brigadier General S. L. A. MARSHALL

SPEAKING OF TEAM PLAY

AT FORT BENNING RECENTLY I was asked if during my years of research into battle operations, I had found any direct correlation between a fighter's experience in sports and his readiness to spend everything when the last chips were down.

It is a timely question. The President's Committee is straining to get Americans back on the playing fields for the sake of our national health if not to stiffen our military muscles. One main pillar of the program, Dr. Shane McCarthy, proposes that we pedal our way back to fighting trim. That would be good enough if there were any proof of a connection between bicycling and an ability to walk four miles into fire under a forty-pound burden.

Fresh statistical proof of our national flabbiness is said to have "profoundly shocked" Mr. Eisenhower. The figures say we're not holding our own. When approximately one brigade of European small fry, age 6 to 16, was tested for muscular fitness, it passed with flying colors, 91.3 per cent sound. Given the same examination, 57.9 per cent of 4,264 young Americans failed to make the grade.

There is at least an interesting coincidence of numbers in that failure rate. Compare it with the findings at Fort Knox nine years ago that among young Americans coming of military age, 56.3 per cent have never participated in any team game.

The figure means that more than half of our potential material voluntarily bypasses the school which best conditions it to fit easily into military service. The late Field Marshal Sir Archibald Wavell wrote wisely that fighting operations can be compared only to a "rough and brutal team game."

The proposition holds true at the level on which generals plan their maneuvers, since risk and the willingness to accept the gamble are at the heart of the business. It applies even more directly at the level of the squad where a sergeant must either train his men to coordinated action equal to the hitting unity of a football eleven, or witness their dissolution under fire.

WE EVER TALK OF MILITARY team play; we too seldom reflect on why nothing else will work. Essentially fire power is beaten only by stronger fire power. But the buildup of winning fire depends on how many hands unite in the play. The fire rate of weapons has relatively little to do with it. When the chain of human force breaks, the other side gets the goalposts.

The good squad or company must not only operate as a team on the combat gridiron. Much earlier in the game, it must develop the spirit of a team. Otherwise its members inevitably become victims of their individual fears in the fateful hour when nothing may save them but strong control, made possible by mutual confidence.

Team play must be taught in an army as on any ball field. Men do not come by it naturally. Its basic technique is voluntary cooperation and submission to the interests of the group. Its components are reducible to three essentials:

Placing men in the positions for which they are best suited physically and mentally.

Developing a sense of timing, rhythm and interdependence among them.

Calling signals so that they will be heard and obeyed.

You might say therefore that the stuff of unity in a combat team is no different than in a football eleven, and it is literally true.

The main difference lies in the intensity of the demand. Yet in far larger measure than college presidents appreciate, or generals understand, when we mobilize, the leading which converts the static power of the American majority into dynamic military force is drawn from the playing fields of the nation.

There are not enough old sergeants to spread around, and besides, they specialize in the mechanics of the trade. No man can do a good job of teaching team play unless he has at some time been a member of a team. What he there learned gives him the confidence to take hold and to teach the lesson to someone else.

Civilians who have never looked at combat think of it as an enterprise in which the big game hunter, accustomed

to hard going over country, and unerring with his rifle, should be quite at home. In cold fact, the demands of the front line are little related to this kind of conditioning.

War's small picture is a series of end runs, off-tackle bucks and center rushes. If the team does not hold together during each of these plays, it loses yardage and the ball changes hands.

Take one example: It becomes necessary for a platoon to get its machine gun forward to better ground and so suppress fire which is withering the line. But the gun can't go because the fire is sweeping right over the gunner's head. So an automatic-rifle man is sent forward on a sneaker play through dead ground and two men with Garands move up to give him protecting fire on either side.

No sooner do they engage than sniper fire from a fresh quarter makes them taper off. They see that the snipers are nested behind heavy ledges almost immune to bullet fire. So the word is sent to the man on the recoilless gun, and from far back he blasts the ledge. The rifle team then combines its fires to make the enemy put his head down, and on its next bound forward, clears the opening which enables the machine gun to move up through center.

These are team maneuvers—typical ones—and their success comes wholly of group coordination. There is, however, the major difference between combat and any other team game that the contest almost invariably begins with a withering of the team spirit and action. It is bound to be so when men's lives are directly in danger.

The prevailing problem in the first quarter is to shake men loose from their somber personal thoughts and revitalize their essential bonds of unity. In the crisis, strong individualism is the restorative of team play. One man takes a positive action. His example breaks the spell of fear, and others see that applied force is their only salvation.

In researching the pivotal actions along our combat line, it at first surprised me to discover that the strong individualists in crisis were almost invariably the best team players when the operation got going, and that in a high percentage of cases the man who pitched hardest then was a former athlete who had learned the team principle in civilian life.

On later reflection, I came to see that it had to be this way. The great gain to the military out of organized sport's accent on team play is that, once accepting the principle, the individual becomes more capable of high personal initiative when circumstances permit nothing less.

For example, a fighter who is quite sure of his throwing arm because he has played third base will chance greater exposure in grenade action than the fellow who's worrying because he might drop the bloody little thing. And there is the other dividend that out of experience in contact sports, one learns to surmount small physical handicaps, and to endure pain without thought of it, if there is a worthwhile goal in sight. The triumph of the will does carry over into later years. Learning how to take bumps and bruises is not a technique but a way of life.

I have seen hundreds of American youngsters so badly smeared in combat that they had full reason to quit but didn't know the meaning of the word. Most of these diehards got that way on American playing fields.

Too, there is an elementary know-how that comes of passing a ball around, swinging a bat or wielding a polo mallet. Muscular coordination, strengthening of the hands, quickness of eye and conquest of fear are each a part of it.

Given such training, any man takes more naturally and confidently to the handling of any other small object, be it a grenade, rifle, bazooka or burp gun. The others who lack this initial advantage must work twice as hard if they are to fit into the game and feel natural at it. I learned this during my own recruit days in 1917 and all observation since has simply confirmed it. The man who is only fairly competent in body contact sports is more at home with military weapons and usage than either the best mechanic or the rifleman who has followed range work for the sheer love of it.

Yes, timing is important. But there is one thing else—in baseball and football particularly a man must learn how to hit the dirt, and he spends many of his most worthwhile moments in hard contact with the unyielding face of Mother Earth.

There is something very fundamental about this. All of us walk the earth but very few of us learn to grovel in it, hit it, slide into it and know joy from doing it. A frontline fighter has to do all of these things. Earth is his final protector. When he bounds forward to a new position under fire, his life rests on his ability to keep low like a halfback hitting the line, and to close the last few yards with a headlong slide, as ballplayers did before the hook and the fall-away were practiced.

Knowing how to fall, how to roll and how to hug earth is as essential to a fighter as knowing how to run when it's suicide to walk. He will get a final conviction of these things on the playing field because combat is more urgent.

But there is no better preparatory school than the way of the team player who starts on the sandlots and stays with the game through early manhood. It's easily said, though as the President's Committee points out, the pity is that relatively so few young Americans are willing to travel that route.

Our national weakness is in the legs because as a people we have almost forgotten how to use them. The Russians, Chinese, Japanese, Koreans, Germans, British and many others can out-slog us because they keep at it, and their mode of life is such that their youngsters have little chance to let their muscles go unused.

We do not climb hills or even walk in the parks when the weather is pleasant. This exacts a terrible penalty when men are called to fight. An average American infantry unit, if sent up a ridge only 500 meters high, cannot advance more than about 1,700 yards and still remain fit to fight. Though the President's Committee didn't say so, our American lack of leg-push when we get under fire is our primary military weakness, more to be feared than arms abroad or the resurgent cry for economy.

Win With Your Wounded

Medics believe that forty per cent of the men injured or wounded in a nuclear attack can be returned to duty rapidly if adequate medical services are available at division and battle group levels

LIEUTENANT COLONELS SPURGEON H. NEEL, JR. and JAMES B. HARTGERING

IN the light of what is known about nuclear warfare, we can expect that future battle losses will be larger than we have previously experienced and will occur in great depth at points essential to the conduct of long-range as well as immediate military operations. Medical *and* line officers, therefore, must re-examine our current conconcepts of the disposition of battle casualties, and their impact on sustained combat effectiveness. While care of the injured is technically a medical responsibility, the effect of casualties upon military success is a major problem of command.

Present concepts envisage that our Army of the future will be much more flexible and mobile than in the past and capable of sustained, decentralized operations under a variety of conditions. It is likely that there will be a reduction in the support-to-combat troop ratio, greater dispersion of functional tactical and logistical elements, greater dependence upon aerial lines of communication, reduction in both manpower and matériel pipelines, and replacement by unit as well as by individual.

These considerations pose a dilemma. While Army requirements for more skilled, highly-trained men increase, losses among them may be expected to increase at even higher rate. More must be done with fewer men. Simultaneous losses of large numbers of soldiers at unit level and the logistical burden incident to their evacuation and care, plus the training and movement of required replacements appear incompatible with the mobile, decentralized characteristics we want in our Army.

Let us consider the casualty problem at the level of the operating military unit. It is estimated, using accepted (and conservative) weapons effects data, and type tactical dispositions, that the detonation of one type of nuclear weapon on a type infantry battalion of a strength of one thousand men may result in approximately six per cent killed and thirty per cent injured surviving as of H plus 1. Losses cited as of H plus 1 do not consider ultimate losses—that is, those who die of wounds due to delay in rescue, evacuation or treatment. Losses due to concurrent use of conventional weapons or enemy exploitation are not included. The final ratio of killed to injured may be expected to increase from previous recent experience of 1 to 4 (World War II and Korea) toward unity (that is, 1 dead to 1 wounded).

These losses are not merely so many human beings who are dead or suffering. They represent skilled, highly trained, experienced men of value to both immediate and long-range military operations. It may be predicted that casualties in the future will include a large number of officers and noncommissioned officers. A major factor contributing to the death or injury of these leaders is that they will be at a place and performing a function prejudicial to the enemy. By definition these functions are important and they do remain and they must be assumed by others without delay if military success is to be attained.

The immediate effect of large numbers of casualties occurring simultaneously in a given military unit or activity is obvious. If it is accepted that a unit must have a minimum of seventy per cent of its authorized strength to perform its mission, the battalion we have cited is ineffective in as much as only sixty-four per cent of its men remain uninjured. The unit must be reinforced or replaced without delay,

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CERESA

TABLE I

CATEGORIES OF NUCLEAR INJURIES[a]

Category of injury	Description of category	Per cent of total injuries
Minimal treatment	Patients who can be returned to duty immediately following emergency medical treatment or after limited holding care	40
Immediate treatment	Patients for whom expedient surgical procedures will save life or limb.	20
Delayed treatment	Patients who, after emergency care, incur little increased risk by delay in further treatment	20
Expectant treatment	Patients so critically injured that only complicated and prolonged treatment offers any hope for improving life expectancy	20

[a]Extracted from TB Med 246, *Early Medical Management of Mass Casualties in Nuclear Warfare*, 12 October 1955.

In a nuclear attack about 60 per cent of the injured and wounded will have to be evacuated; 80 per cent of the remaining 40 per cent may return to duty the first day and the rest within ten days

TABLE II

ESTIMATED RETURN TO DUTY TIMES: Nuclear Injuries (Field Army)

Category	Per cent of injured	Per cent of first day	Category 2-10 days	Returned to duty after 10 days[a]
Minimal treatment	40	80	20	0
Immediate treatment	20	0	15	85
Delayed treatment	20	0	20	80
Expectant treatment	20	0	0	100

Note: **It is noted that, with joint line-medical understanding, 32 per cent of total nuclear injured can be returned to duty on the first day, and an additional 15 per cent by the tenth day; 53 per cent require evacuation from the division area.**

[a]This column also includes those who ultimately die.

or its mission aborted. Even if individual replacements were immediately available, there are insufficient battle-experienced men remaining to integrate them under continuing combat conditions. There are barely enough men remaining to facilitate the battalion's regrouping and relief in place, and to assist with its own evacuation. Pending reestablishment of the damaged battalion, other tactical units must assume its mission in addition to their own.

The long-range impact of large numbers of casualties upon sustained military operations also merits consideration. There is a limit to the manpower which will be made available to the Army of the future. Losses must be replaced. The increasing technical nature of modern warfare necessitates a longer period of training for both individuals and units.

A substantial amount of vital surface and aerial transportation will be required for the evacuation of casualties and for the movement of replacements forward. Hospital requirements stagger the imagination if current medical standards are to be preserved and the maximum number of wounded are to be restored to effective duty. All these logistical activities require intelligent, well-trained people. Thus this requirement will reduce the manpower that is available for combat operations.

What can be done?

This rather brief consideration of the military casualty problem brings us to the all-important question: What can be done to minimize these adverse effects? One of the primary objectives of all combat development activities is the reduction of the vulnerability of military formations and installations to nuclear attack. Soldiers and units are being trained in passive protective measures. Techniques and equipment to facilitate the evacuation and treatment of the sick and injured and to expedite their early return to effective duty are under constant development.

One possible solution is a drastic reappraisal of current concepts regarding "effective" versus "noneffective" soldiers. In the past, all but the very minor sick and injured have been removed from duty status and retained in "medical channels" until fully capable of military duty. Although regulations provide for the return of partially effective personnel to limited duty, there has been a reluctance on the part of the line commander to accept them,

largely because of the administrative burdens involved in using less than fully able-bodied men. This philosophy in the past, although quite expensive in military manpower, has been compatible with military success. It is no longer.

Nature of the injuries

Let us take a second look at the injuries which may be expected from a nuclear detonation. They vary widely, all the way from the minor burn, abrasion, cut or bruise, to multiple crushing wounds of the extremities, extensive burns, or a perforation of the abdomen or chest with extensive internal damage. Medical consensus is that most nuclear injuries may be subdivided into four general categories based on the types and priority of treatment required. Table I lists the categories of injuries and their percentages among the total injuries to be expected. We emphasize that the table applies only to a type situation, and is intended primarily to provide guidance to responsible surgeons when there is a serious disparity between the number of injured requiring treatment and the locally available medical means.

Accepting Table I, it is apparent that approximately sixty per cent of all patients with nuclear injuries (the last three classes) will require evacuation from the immediate unit area, and the majority will require prolonged hospitalization before returning to effective military duty. The remaining forty per cent (minimal treatment) may be treated in forward medical facilities and returned able to perform effective military duty. "Effective military duty" means that the individual is able to care for his own daily needs and will be more of a benefit than a burden to his unit. While requiring medical supervision, these men will be able to perform a job for which they have been trained. Table II reflects estimated return to duty times.

They can do duty

This minimal treatment category of nuclear injuries is of joint line and medical interest. Despite minor medical limitations, these soldiers are generally of more value to the unit than green replacements. Frequently, these patients will completely recover in much less time than that required for the orientation and integration of the new replacement.

Approximately eighty per cent of the minimal treatment category (thirty-two per cent of the total injured) may be returned to duty immediately after emergency medical treatment. Examples of this subgroup include minor cuts, bruises and abrasions; simple fractures of small bones, particularly of an upper extremity; and second-degree burns of up to ten per cent of the body surface and not involving the hands and face. The remaining twenty per cent of the minimal treatment category (eight per cent of the total injured), plus a few from the immediate and delayed treatment categories, will need limited holding care before returning to duty. This holding care is essentially medical observation, assistance to patients in attending to daily needs, occasional changing of dressings, rest, and the like, and is within the capability of the division clearing station. Depending upon the specific functions of the soldier, these patients may return to military duty within some two to ten days. Examples are patients with such conditions as second-degree burns of the face interfering with sight or eating, temporarily incapacitating burns of the hands, disabling fractures of minor bones, and moderate neuropsychiatric disorders.

Impact on unit and individual

What is the impact of full utilization of these partially effective soldiers upon the commander and his military unit? Immediately, the example infantry battalion returns thirty-two per cent of its wounded to duty and thus has some seventy-three per cent "effective" men instead of sixty-four per cent. Its capability for continuing its mission is substantially increased. Even if the unit is relieved, more men are available to accomplish a withdrawal, and assist in the evacuation of injured men and equipment. Reconstitution of the battalion within the division area is facilitated by the early return of an additional fifteen per cent of its wounded from divisional medical facilities. Orientation, training and integration of newly joined replacements is facilitated. The battalion will soon be combat effective again, many of its casualties having replaced themselves.

What will be the impact upon the soldier who has been wounded? In the past the trend has been to remove the wounded to a place of safety pending complete recovery. This "place of safety" is growing progressively more difficult to find. Recovery and rehabilitation are essentially matters of training and physical reconditioning and can be accomplished effectively in the operating military unit, if adequate medical surveillance is available. Lastly, the soldier must be taught, early in training, that a wound or injury is not necessarily a ticket for relief from combat. The survival of the soldier and his nation may well depend upon his rapid return to some effective military duty.

What will be the effect upon unit and supporting medical services? If these "effectives" are returned to duty after only emergency medical treatment, unit surgeons will face increased responsibilities in providing dispensary type care, and essential medical supervision and advice. Supporting field medical facilities (such as clearing stations) will require an increased capability for limited holding care. Agencies responsible for reorganization of divisions and other units are reminded that an adequate medical service at unit and divisional level will pay large dividends in sustained combat effectiveness within this concept of treating and returning injured to duty, consistent with the patient's welfare and the military situation.

On the other hand, the rapid return of the minimal injured to duty will facilitate the evacuation and treatment of the more severely wounded. Hospital installations will not be inundated with the minor wounded and can devote full effort to the treatment of those who actually require it. As a result of such realistic forward sorting, surgery can be more rapid and more effective, and more men will be returned to eventual duty, more rapidly. Ancillary gains from a reorientation of "personnel effectiveness" include a reduction in transportation for the rearward evacuation of casualties and the forward movement of replacements. Total replacements may be reduced by having the injured soldier "replace" himself. The initial manpower superiority of a potential enemy will be blunted quickly by the effective utilization and *re-utilization* of the manpower available on the spot.

The well-trained, experienced individual soldier is still the common denominator to success in battle. The nature of the "next war" indicates that every available soldier will have to fight once; the majority will have to fight again and again if the enemy's initial manpower superiority is to be neutralized, then overcome.

COMBAT TACTICS FOR

The graveyard of defeat is littered with the bones of those who adhered to set rules and stereotyped tactics. Now more than ever battlefield success will require leaders who have an understanding of war and are able to adapt to changing conditions and events

MAJOR GENERAL HAMILTON H. HOWZE

MOST of us can tick off the names of the weapons which will be available to the Army to perform its battle mission. While we know factual scientific data like range, accuracy, yield and damage of these weapons, we little understand their effect on morale and we do not yet fully grasp the battle capacity of units armed with these weapons or how best to exploit that effect.

Today we have close-support artillery that fires conventional explosives; larger guns capable of conventional fire but also of delivering atomic warheads; and surface-to-surface missiles that carry conventional as well as atomic warheads of various yields.

In the near future we will have bigger (longer-range) and better artillery pieces and missiles that fire conventional or atomic warheads, topped off by Redstone, which packs a tremendous wallop. Nike Hercules will be a much improved surface-to-air missile whose warheads can destroy whole fleets of aircraft. Hawk, a conventional explosive missile, shows very great promise for employment against low-flying supersonic aircraft. In addition, we are improving our ability to deal by conventional means with the point target: the individual infantryman or the individual tank.

Hand in hand with fire power goes another basic requirement for efficient military force: mobility on the ground and in the air. We hope for lighter and more agile ground vehicles, armored to provide a measure of protection against atomic blasts for troops on the move.

We expect equivalent improvement in our aircraft. While what we have are now very useful, we need aircraft that are simpler and easier to maintain, with greater capacities, better performance, and a greater ability to land and take off from very small unimproved fields.

We must also be better able to operate our aircraft in times of severely restricted visibility in the forward battle area. This must be done not at high altitudes where one is practically free of the possibility of meeting obstructions, but at very low altitudes and in areas where formal ground navigation stations are nonexistent. This is obviously a large step forward; indeed, it involves a whole new concept of flight instrumentation, navigation, and traffic

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TOMORROW'S ARMY

control. But we have every hope for success.

The proper use of new tactical means calls for great adaptability. As General Willard G. Wyman has said, "It is one of the ironies of history that military adaptations envisioned by farsighted men often go unheeded in their own country but are adopted with alacrity and victorious results by the enemy."

We can truly say that our Army is developing as best it can a capability to apply force wisely and imaginatively —and selectively according to the need. We must be able to wage either nuclear or non-nuclear war, war on the large or small scale.

Mobility in a non-nuclear action

The difference between the so-called brush-fire war and the limited war with a formidable opponent lies in the fact that in the latter there is always the possibility that one of the two sides may, without warning, change the character of the war from non-nuclear to nuclear.

In the very limited war such as might be fought by United States forces in some parts of the world, the application of atomic power is, in my opinion, a fairly remote possibility. Even so, such an enterprise would vary considerably from the wars of the past.

Modern forces in a non-nuclear war would still capitalize as much as possible on increased mobility. Many of the most important battles of World War II and Korea would have ended differently had our forces possessed a sufficient number of helicopters to lift a portion of our troops over mountains, escarpments, swamps and other obstacles. River-crossing operations offer a more specific example: in the last two struggles a water obstacle was very frequently the basis of the defensive position of the weaker enemy, and the crossing of that river required advancing forces to wait for long periods until bridging material, boats, and troops and weapons necessary to effect the crossing were laboriously gathered up. The helicopter, which can quickly cross a limited number of troops before the enemy is ready to meet the threat, and which can thereafter efficiently ferry reinforcing elements and large quantities of supplies, would so greatly influence such an action in the future as to change the whole character of the battle. For another example, at El Alamein the Germans and British faced each other on a narrow front, bound on the north by the Mediterranean and on

Figure 1. DEPTH MARKS THE FUTURE THEATER OF OPERATIONS

Not only will the combat zone be much deeper than the World War II zone, but the area inhabited by logistical installations also will be deeper and the installations themselves will be dispersed more widely. This means that air lines of communication will necessarily be common for all supplies except heavy tonnage items such as POL (even heavy items may be air transported in critical situations). Organic aircraft will be used within the area of the field army for these supply missions, but USAF cargo craft will be required to transport supplies from base areas to points where they may be picked up by the field army.

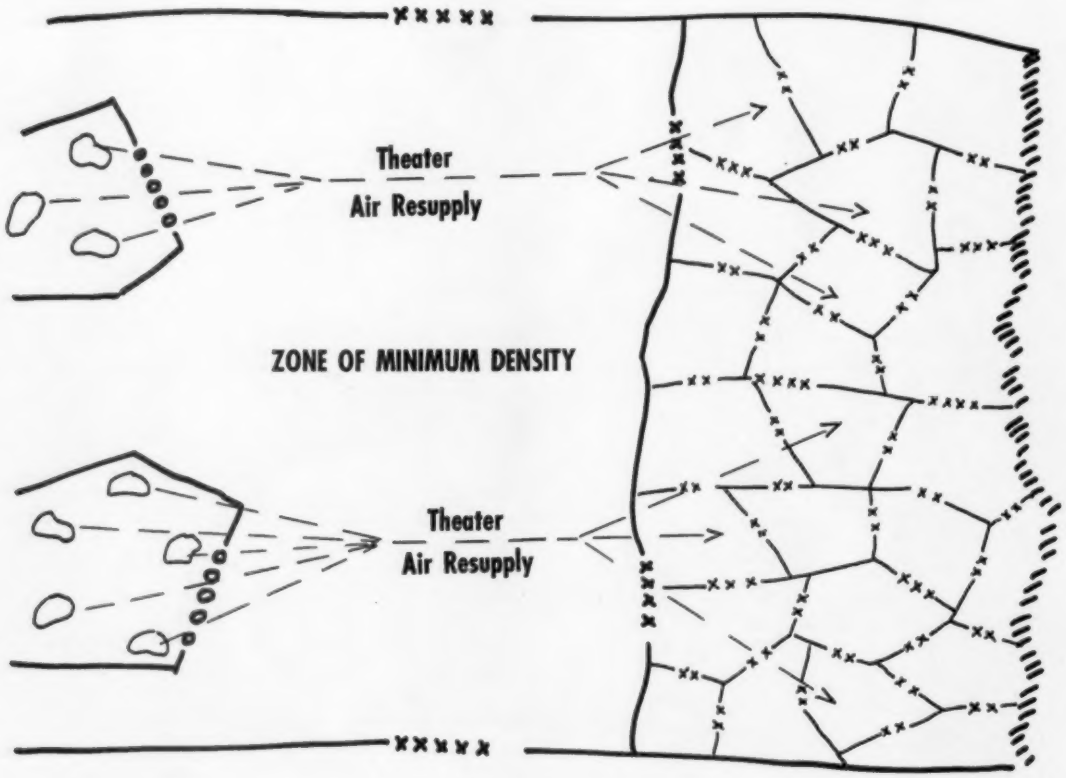
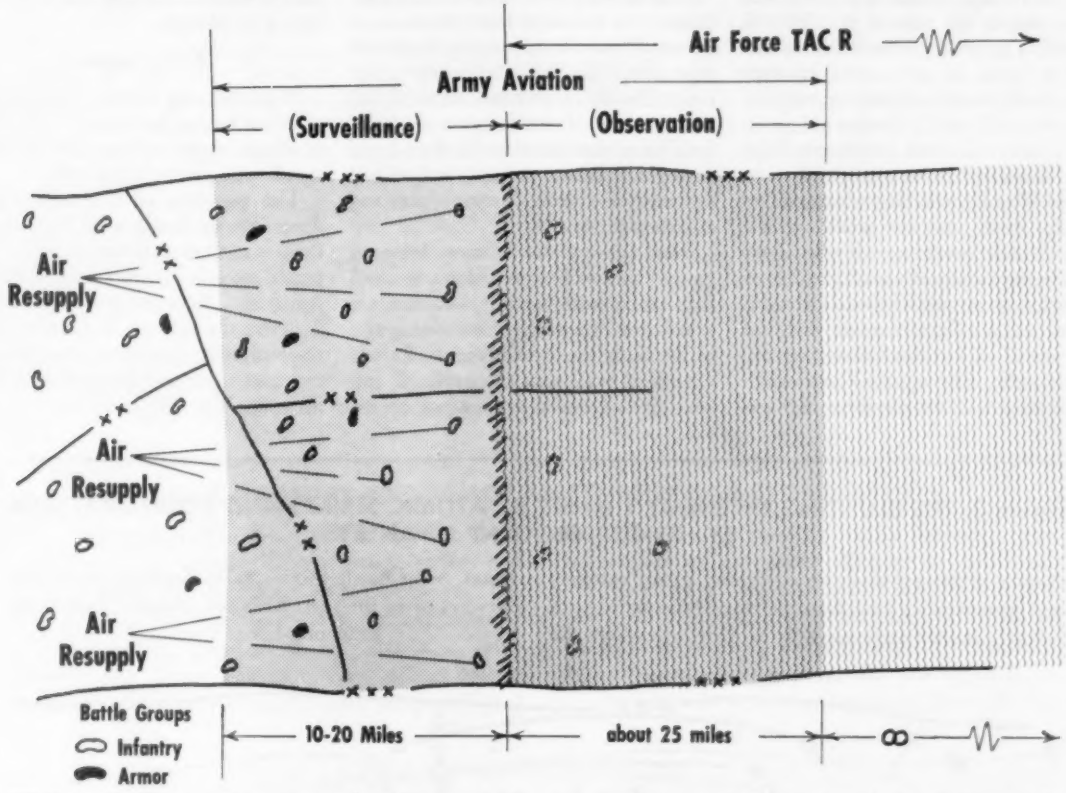


Figure 2. PROBLEMS OF DISPERSION AND DEPTH CAN BE SOLVED BY ARMY AIRCRAFT



While USAF reconnaissance responsibility extends forward from the area of general contact an indeterminate distance, areas up to 25 miles beyond the contact line must be under detailed observation of Army aircraft. The area immediately behind the general line of contact which is inhabited by dispersed battle groups (armor and infantry) must also be kept under constant surveillance by Army aircraft in order to spot enemy infiltration. Resupply from points far to the rear must be by air since truck columns could be easily disrupted by small enemy parties infiltrating between the battle groups.

the south by the impassable Qattara Depression. Had either Montgomery or Rommel been able to move troops and light equipment around either's flank, the character of that battle, too, would have changed greatly.

What I have said applies to an equal degree in the non-nuclear war which may become nuclear, except that such a conflict would put an even greater premium on mobility, for neither force would dare concentrate troops and matériel for more than very short periods for fear of tempting the enemy's atomic capability. Greater dispersion will obviously increase the need to move our combat troops rapidly throughout the battle area. So, again, we must have mobility.

The problem of tactical air support for ground troops is filled with many uncertainties.

The main problem facing the short-range missile (usually cited as the replacement for the fighter-bomber) is the detection of a target beyond a terrain mask or one otherwise invisible to ground observation. The Army is pressing, with aircraft and reconnaissance drone programs, toward a solution to the problem; but even so, the missile will not in some respects match the flexibility, area coverage, and concentration of weapon power possible in a tactical air force. The Army's missiles should provide our divisions with what might be called the routine daily requirement for this type of fire support, and thereby *reduce* the demands made on the fighter-bomber; but when maximum effort is required, the concentration of fire power that can be supplied by a numbered tactical air force may and probably will still be very desirable.

The survivability of the fighter-bomber against enemy surface-to-air missiles is a basic question. Though the pilot of the future will no doubt lead a more harrowing life, we must not therefore conclude that the manned aircraft is no longer a practical weapon. After all, the infantryman has not been removed from the battlefield, although the means to kill him are extremely effective and of infinite variety.

LOC in atomic war

The greatest problems will arise in ground warfare employing atomic weapons. It is generally agreed that the atomic combat zone will be vastly extended in depth, with both tactical and logistical elements dispersed. For comparison consider the degree of dispersion of Army forces in a typical theater of World War II.

The large concentrations of supplies and installations throughout a World War II theater would now constitute prime targets for guided missiles and rockets. There was little depth to the combat zone, an intolerable arrangement under atomic warfare conditions.

Figure 1 depicts a theater of operations under the new conditions. The field army area is much deeper than in World War II, reflecting a lesser troop density. Note, too, the small general depots, each providing all classes of supply, the increased use of air lines of communication, and the establishment of base sections far to the rear, well out of range of all but the heaviest enemy missile units. The logistical base of the future may well be off shore; for example, for operations in southern Europe it might be in Africa.

Undoubtedly land lines of communication will for some time continue to be employed for supplying high-tonnage items like POL and heavy equipment. On the other hand, an air LOC must be available on an increased scale, both from base areas to the field army (using supporting aircraft) and within the area of the field army (utilizing organic aircraft).

The appropriate balance between ground and air lines of communication requires continuous study; however, we visualize a progressively increasing use of air with the development of craft capable of vertical or short take-off and landing. A reduced dependence on extensive land lines of communication will provide large dividends in terms of manpower, time, vulnerability, and perhaps even dollars.

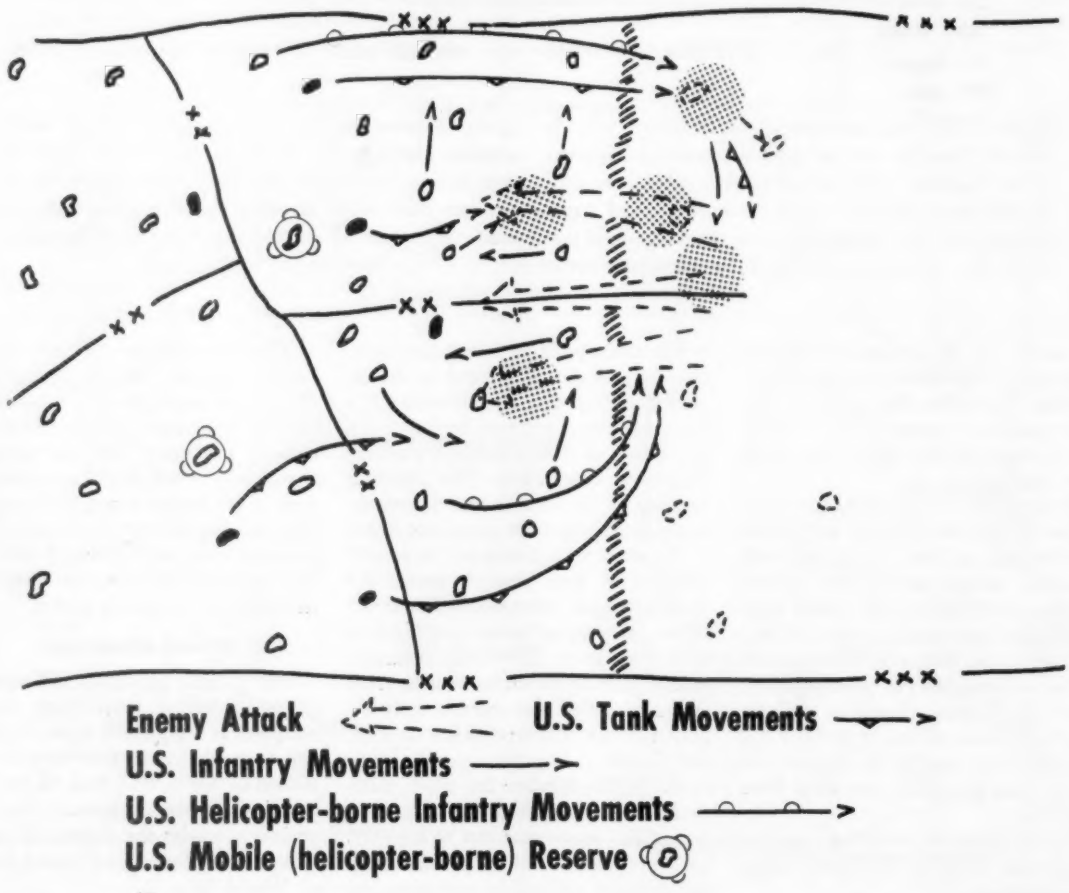
Battle tactics

We must now consider some aspects of minor tactics, for a look at the smaller affairs of war is necessary to understand some of the larger ones.

The principle of dispersion carries down into the battle zones of corps and divisions. One problem facing a dispersed unit is keeping tab on what is going on. The wavy portion of Figure 2 shows the area of Air Force Tac-R responsibility, extending from the general area of contact forward an infinite distance. The Air Force will presum-

Figure 3. THE BLUNTING OF ENEMY THRUSTS BY ATOMIC STRIKES AND COUNTERATTACK BY HELICOPTER-BORNE INFANTRY

Atomic strikes are made on advancing enemy columns and remunerative targets in the rear. Helicopter-borne infantry immediately react by moving to exploit the strikes. Some battle groups move forward and others sideways or to the rear. Armored columns follow the helicopter-borne thrusts.



ably have no trouble with infinity.

A thoroughly essential overlap is shown extending from the area of contact forward about twenty-five miles. Over that area Army observation aircraft, capable of far more detailed surveillance than is possible in Air Force high-speed planes, will supplement USAF efforts to give corps and division commanders adequate warning of sudden or surreptitious enemy movements. From the area of contact to the rear, Army aviation—using principally light, fixed-wing aircraft and reconnaissance helicopters—will maintain a detailed surveillance in endeavoring to discover infiltration into the wide areas between small battle groups.

Resupply by Army aircraft will probably be routinely necessary for the most forward battle groups. Otherwise, supply would be very hazardous, because it will be impossible to prevent the infiltration into this area of enemy small parties which could easily disrupt the movement of our truck columns.

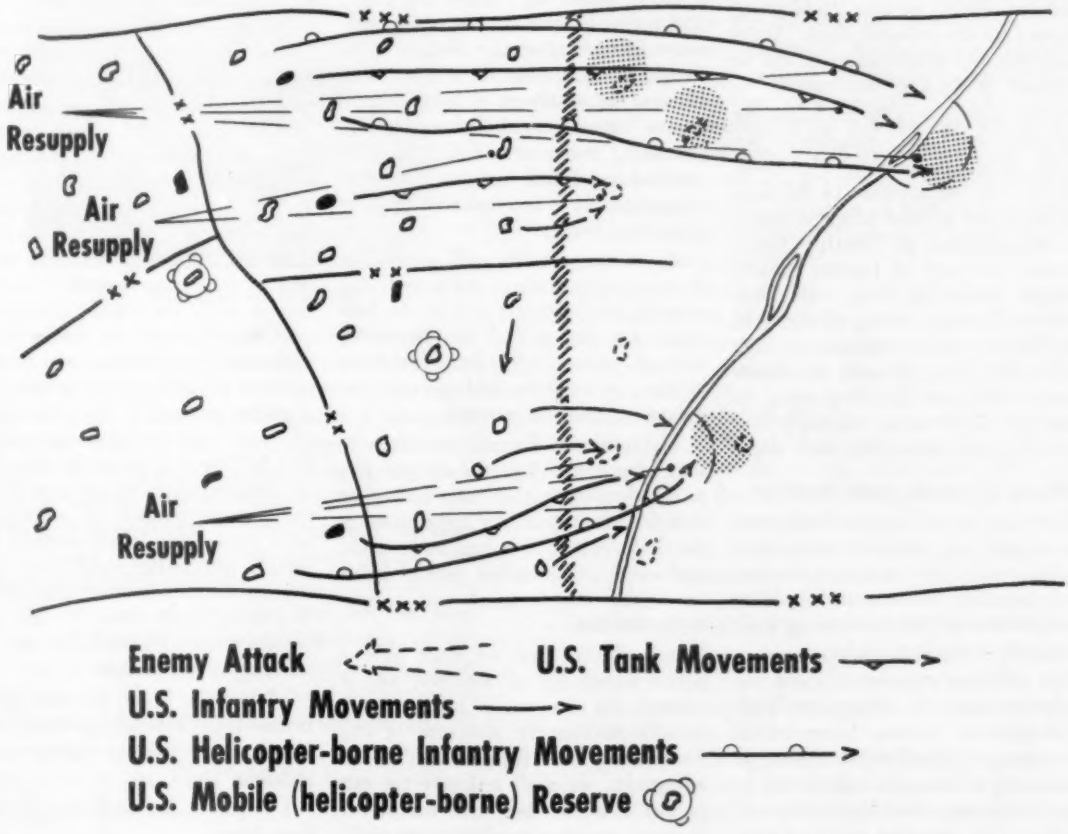
Up to now, the idea that a unit attacked will react either by holding fast, or withdrawing according to need, has been generally accepted. A formation of widely dispersed small battle groups may react to attack by moving forward certain groups while others perhaps move sideward or backward. The same reaction by the enemy to our attack may require us, while on the offensive, to move certain battle groups backward or sideward. What we foresee, then, is a tactical move resembling a game of chess, where the pieces intermingle and each side seeks to neutralize or destroy the critical parts of his opponent—in a word, to checkmate the king.

Figure 3 shows a conceivable reaction to hostile attack. The shaded circles represent atomic strikes on enemy attacking formations and on certain areas in his rear deemed remunerative by our reconnoitering aircraft. Some of our battle groups may move forward offensively according to plan, others may move sideward, while others withdraw. Many of these movements may be by helicopter lift, as shown by the arrows.

An attack of our own, probably using our original defense dispositions,

Figure 4. INFANTRY AND ARMOR ATTACK THROUGH ATOMIC STRIKES

From dispersed positions far back in its own zone, helicopter-borne infantry exploit atomic strikes and break through the enemy's forward positions. The movement at the top shows how helicopter-borne infantry leapfrog ahead of the advance of a heavy armored task force. The movement at the bottom shows how helicopter-borne infantry jumps forward to establish a river crossing for an armored thrust. The latitude of movement afforded by helicopters gives the attacker the advantage of surprise and flexibility in choosing the ground on which he fights. Air movement also makes possible the rapid reinforcement of fresh reserves, resupply, and the placing of reconnaissance or screening forces far forward.



must originate from dispersed conditions, as shown in Figure 4. Atomic weapons would be used liberally in the opening phases of an offensive in order to effect a breakthrough as quickly as possible. If four weapons were available for this sector of the attack, a likely application is shown by the circles.

Helicopter-borne infantry attacks are launched as indicated. Such an attack, shown at the top of Figure 4, is made in conjunction with a much heavier armored attack. Other arrows indicate helicopter-borne attacks to establish two bridgeheads on the river to cover the crossing of following armor. Notice that these forces can originate much farther to the rear than can less mobile elements. This mobility gives helicopter infantry much greater latitude in selecting points of thrust, enhances greatly the possibility of surprise, and makes helicopter infantry an excellent force to collaborate with tank forces in attack or counterattack.

In the exploitation which would follow a successful attack, helicopter-borne infantry, fresh from relatively inactive positions in the rear, would be brought forward quickly to maintain the impetus of the tank-infantry attack, or possibly to take up blocking positions on an exposed flank. Aerial resupply of the spearhead units will be of utmost utility and importance.

In the more distant future looms the probability of large, completely air-mobile units—sky cavalry. The possibilities for its employment in the fluid phases of the ground struggle excite the imagination: as covering forces operating in front of heavier ground elements, protecting long, vulnerable flanks of the main forces of the field army, striking enemy formations from unexpected directions with maximum surprise. We are just beginning to investigate these ideas, haltingly and with some trepidation, but with hope.

Effects of terrain and weather

Our planning staffs and schools must take a searching look at certain old, familiar, and vitally important factors: terrain, weather, darkness, and the basic characteristics of that fascinating individual, the American soldier.

We still hear statements about the absolute necessity of seizing and holding dominating terrain. These beliefs must not go unchallenged. Although dominating terrain may indeed still be considerably important, it probably will not always be necessary or desirable to seize and occupy that terrain with strong forces. It is possible to visualize a situation where any force occupying the highest hill will be instantly detected and as quickly obliterated. So, a piece of ground which in World War II would have been the prize feature of the local area, might in the next war become simply a slaughter pen, to be avoided by both sides. Dominating terrain, then, may in many circumstances have its greatest use merely as a point of observation, as against a point of actual defense.

Because our units are widely dispersed, many tactically important terrain features cannot be occupied. Our battle plan, identifying these areas, must endeavor to make them unhealthy for occupation by the enemy—through our use of mines, prearranged artillery and mortar fires, and planned atomic strikes. These features, too, may then become killing grounds.

Obstacles on the battlefield take on new meanings. In addition to the natural and artificial battlefield obstacles already mentioned, nuclear warfare imposes new and worse ones: areas contaminated by atomic radiation, woods and fields set afire by atomic blast, large areas in which *all* bridges are down, and towns become rubble across roadways. Contrariwise, the obstacle is no longer as defensible as it once was, because of the advent of light aircraft. So we must recognize that the side possessing the greater ability to overcome obstacles will have an enormous advantage, for it can make an obstacle a one-way barrier.

As always, weather will greatly influence the outcome of the action. Bad weather and darkness will be the best times for the tactical movement of units; elusiveness, concealment, and dispersion, as we have said, provide the greatest chances of survival.

The influence of weather on observation is apparent. A partial solution lies in the development of radar and other detectors. Not generally appreciated is the influence of weather on nuclear explosions, and weather greatly influences the trajectory of our longer-range missiles.

It is obvious that we must have a better knowledge of weather, and a scheme for accurately predicting it broadly within the structure of the Army. We must fully recognize the advantages we shall enjoy if we can predict local weather with reasonable accuracy, and then employ our capability to operate effectively—in the air and on the ground—in conditions we now consider unfavorable. If our capabilities are greater than the enemy's we thereby gain further important advantages.

The need for effective communications is also obvious, but the Army cannot employ any greater number of soldiers on the problem than we do now. Today, in an armored division, an alarmingly large percentage of its manpower is soaked up by the necessity to communicate. No one questions that we need a system which will give us a better end product, but we must achieve it without increasing personnel.

The fighting units need the best men, for we must keep the cutting edge sharp, by all means. Secondly, we must make the best possible guesses—based on careful research—as to the reaction of men laboring under the possibility of instantaneous wholesale destruction, and the reaction of units to obliteration of one or more of their component parts. Brigadier General S. L. A. Marshall spoke of this as "group shock" in the May issue of ARMY. It is a vital subject.

War has no rules

Modern warfare is often described almost entirely in terms of devastating fire power, while I have greatly stressed mobility. Most of us understand mobility simply as the process of getting about with desirable facility, but very few persons understand its implications. In the words of the German General Bechtolsheim: "Mobility means quick decisions, quick movements, surprise attacks with concentrated force; to do always what the enemy does not expect, and to constantly change both the means and the methods and to do the most improbable things whenever the situation permits; it means to be free of all set rules and preconceived ideas. We believe that no leader who thinks by stereotyped rules can ever do anything great, because he is bound by such rules. War is not normal. Situations in war change rapidly, and changing situations cannot be solved by rules. We do not want therefore any stereotyped solutions for battle, but an understanding of the nature of war."

Moltke the Elder, decades ago, put it this way: "Everything in war is subject to change—only change is permissible."

I hope we are wise enough to believe him.

The Tasks of the Army Scientist

Dr. William H. Martin

DR. WILLIAM H. MARTIN

—Director of Research and Development of the Army, since the creation of that office on 1 September 1955, he spent forty-three years as an engineer with the American Telephone and Telegraph Company and the Bell Telephone Laboratories, retiring in 1954 as a Vice President. In the same year he became Deputy Assistant Secretary of Defense for Applications Engineering, a position he held before moving into his present position. As Director of Army R&D, Dr. Martin reports directly to the Secretary of the Army and has the same responsibilities as an Assistant Secretary of the Army. As such he is responsible for some $400 millions worth of research and development work annually. An experienced administrator of research work, Dr. Martin is also an enthusiastic supporter of the Army and has been a staunch supporter of the AUSA.

THE Army depends on research and development (R&D) activities to insure that new weapons, tactics and doctrines are ahead in imagination and in step with the advances in technology. In the achievement of these results, the Army scientist plays a most important role.

Our Army scientists are key members of two teams upon which we rely to carry out these activities.

One of these teams is responsible for the establishment of an R&D project, for the selection of the agency for its execution, and for the evaluation of its outcome. This team is entirely within the military department.

The other team is responsible for the monitoring and execution of the R&D project. While the executing agency may be a military one, it frequently is a university, an industrial organization, or an independent laboratory. In many projects, therefore, the Army scientists are working closely with the technical personnel of outside agencies.

Furthermore, in the operation of both teams, we often get the advice and guidance of groups of outside technical experts in relevant fields.

The rapid growth of the technology of our weaponry in the last decade has brought about a great increase in the number of non-military scientists who are working on military projects. Because of the role which the outside technical people play today in our R&D, production and operational programs, and the great competence and understanding they have exhibited, there has been much discussion about the relationships, as to both quantity and quality, between the military scientists and their teammates in the outside organizations.

Because of this situation, it is well to direct attention to the roles and missions of the military scientists.

Operational needs and developmental possibilities

On the first team mentioned, the military scientists play an important part in the establishment of realistic, feasible and timely operational requirements for new things. An operational requirement cannot be effective unless the art is capable, or can be made capable within a proper time scale, of supplying what is needed to meet this requirement. The project to develop a new device is necessarily

based on bringing together an operating need and the development potentialities to meet this need. In this procedure the military operating people need the guidance and advice of military technical personnel who are familiar not only with the technical area, but also have an understanding of military conditions, procedures and doctrine. This latter qualification is particularly important when we are depending upon outside technical personnel for bringing to the military operational planner the potentialities of technology.

With respect to the other team, the Army scientist must be able to talk the language and understand the proposals of the technical people of the executing agency. Furthermore, he must be able to appraise the military feasibility of their proposals.

You will note that I do not state it as a requirement that the military scientist must necessarily be able to match the skills and experience across the board of the outside technical community. This in itself would be expecting more than in general can be attained. I add with emphasis, however, that there are certain fields in which the military scientist must have the competence and experience comparable to, and in certain areas in excess of, that available outside.

As I have outlined here, the military scientist has an important role in optimizing the effectiveness of the teams of the military department, the university, the laboratory, and industry, in order to make available and in minimum time, the complex new weapons systems which are playing such an important part in our concepts of future warfare. In certain fields, such as ballistics, and chemical and bacteriological warfare, where industry has little incentive for activity or little transferable skills and experience, the military scientist is depended upon to a large degree to carry the flag into new areas.

In these and also in many other fields, we depend upon the military scientist to provide a continuity in thinking, techniques and experience, and in insuring that the reservoir of new knowledge is kept filled. This is particularly true in those fields where the outside participation may vary from organization to organization with time.

Keeping up with the art

To put it briefly, we must have in the military organization scientific people who can understand the technical concepts and problems which are involved in military technology and who can well serve the military department in the selection, control and execution of the projects which are authorized to provide new devices and systems for military application.

This competence and skill cannot be maintained in a vacuum. They have to be dynamic and keep up with the rapid progress of technology. This means then that while the military scientists are not necessarily trying to compete with all that is being done outside, they must participate in a sufficient amount of current activity in the technical fields to keep their interests alert and to have their experience accord with the evolving state of the art.

This poses some nice matters of judgment as to proper ratios of quantity and quality of technical personnel between the military field and the outside field.

Getting more out of our R&D dollars

Somewhat more specifically, I shall discuss briefly several areas in which I consider the Army scientists are uniquely needed.

Army scientists in protective clothing install special radiation detection equipment in a Sherman tank at the Nevada Atomic Proving Grounds.

The great stimulation which has been given to our military programs since the war—and particularly in the last four or five years—has in turn increased the rate of evolution of the underlying technology. Our overall activity, viewed in the light of the cold facts of the current military budget, cannot be expected to continue to rise. This poses the problem of being more selective in the projects which we carry to production and on into operation. Furthermore, there is the necessity for reducing the time between concept and availability in order to avoid having our end items obsolete before we can place them in the inventory. Today in some areas with present procedures, this development cycle may be longer than the service life.

To help in this matter of selection, we need to depend more upon operations analysis and feasibility studies, to determine the most promising lines and to make greater use of the "test bed" idea which we are following today in the important field of Army aviation. Specifically, in the operations analysis approach we should make use of what are called parametric studies, in which a model of the operation is determined and then the results of various assumed characteristics and performances are estimated. To get successful results, these activities require a high degree of technical skill and experience for evaluation of results.

It is to our advantage to have the exploratory phases and feasibility studies of such developments carried out along several lines concurrently. Having done this, we need imagination and careful appraisal to put together the best features of the several approaches into one concept for development to hardware.

At this stage we need to carry out skillfully an exercise which I have termed "project planning," meaning by this, the planning of an R&D project.

Where need and potentialities are reconciled

The purpose of "project planning" is to bring together and present the relevant information which management should have in authorizing a proposed project for develop-

ing a new device or system. Such planning first brings together to form a project, an operating need and the potentialities of technology to meet that need. It determines the performance objectives and requirements which must be met and explores the advantages and scope of its application. It compares a recommended means and the procedure to get it with likely alternatives, and indicates the collateral activities which may be needed to fill the gaps in the art and in the required data. Finally, it estimates the cost, time, skills, and facilities to achieve the goal. It is an endeavor to "think through" the project and its results, so that the decision to authorize can be made with proper appreciation of the procedures, the time and the money involved, and the outcome.

Another area of great interest is to insure that proper account is taken during the development process of the interests of the operating and logistics organizations. To this end it is proposed that military and technical characteristics be broadly considered at the initiation of development. The project leader in the technical service, whether officer or civilian, should then at proper points in the development procedure arrange for representatives of Continental Army Command (which sets requirements and evaluates new items), operations, logistics and the R&D staff to meet with the contractor's people to explore what it means to meet these objectives and what might be accomplished by their modification, in terms of performance, productibility, reliability and reductions in complication, time, and money. In this way, we should be able to have the design of the end item more quickly meet the user's interest and attain a more desirable product from the standpoints of supply cost and maintenance.

Getting the most out of evaluation tests

One further important field in this procedure which is of interest to the Army scientist, is the planning of the engineer—and user—tests and in the evaluation of the results. When we are dealing with small arms, large sums of money are not needed to carry out an evaluation involving thousands and maybe tens of thousands of rounds. But when we get to such devices as guided missiles and new types of aircraft or tanks, the costs of prototype models for evaluation is so great that we must wring every bit of information we can get out of the tests of a few models. This applies particularly, of course, in the missile field, where the models are, in general, expendable. Much, I believe, can be accomplished along these lines.

Scientific help for operations and logistics

What I have discussed here has been directed largely to the activities of the military scientists in the field of research and development. I wish to emphasize, however, that there are growing needs for the skills and techniques of the military scientists in the fields of operations and logistics. The development of combat procedures and logistics methods and controls calls for some of the kinds of technology which we are applying in the R&D field. I think I can safely predict that there will be a growing demand for more military scientists in those areas.

Also, what I have stressed is the contributions of the Army scientists to the management of R&D operations. In doing this, I do not mean to detract from the importance of the work of the Army scientists in the fields of the physical sciences and engineering. Rather, my thought is that the roles and the accomplishments of the Army scientists in these fields are well recognized, and so I could direct my remarks here to the importance of present and potential roles in the areas which I have cited.

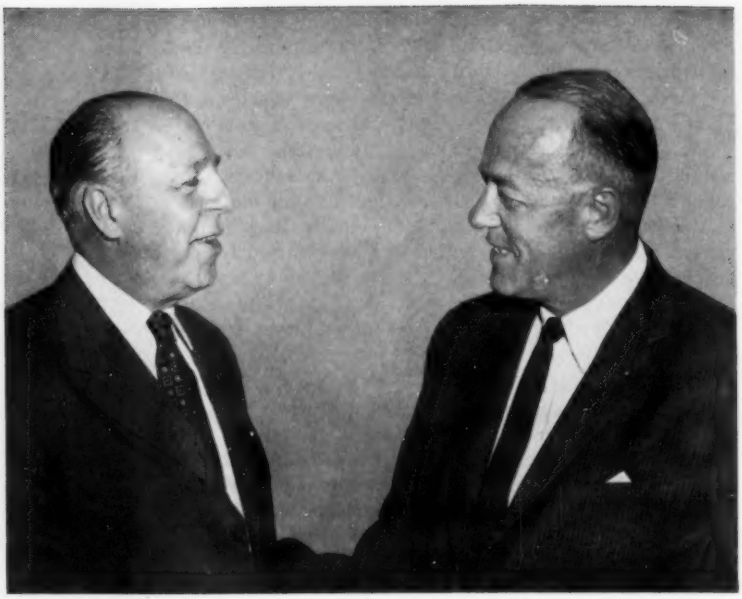
Atomic tests cost millions of dollars and it's essential to get as much information as possible from every shot. Here two Army scientists install a new-type radiation detector designed to learn more about battlefield radiation.

In closing, my purpose has been to emphasize some of the areas where I think the highest skills of the scientist can be exerted with rewarding results on problems which are of the utmost importance from the standpoints of management, control and utilization of the work of the agency executing the R&D project. If we can intelligently meet the problems of the areas which I have cited, we will, I am confident, get increasing effectiveness with our budget dollars and reduce the time required to get new devices, systems, techniques, procedures and doctrines for our operational forces.

I want to stress that the Army scientist has a most important role in the determination of what the Army wants and how to get it. Thus, he makes a major contribution to getting a still more effective Army to meet the demands of future wars, both "all-out" and "limited."

The Army Scientific Advisory Panel marshals an impressive array of talent and knowledge in the Army's behalf

SCIENTISTS WHO SERVE THE ARMY



Secretary Brucker greets Dr. Frederick L. Hovde, the chairman of ASAP

JOHN B. SPORE

Is there a better method of evaluating and equating officers than the present Officer's Efficiency Report and Overall Efficiency Index?

In the light of what we now know about the nature of future warfare what standards should the Army establish for the selection of young officers?

What yields of atomic weapons are best suited for the Army's battlefield needs?

THESE are a few of the hundreds of questions the Army must ask itself and answer if it is to perform its mission of keeping the nation militarily secure. Most of these questions immediately generate other questions and also involve extensive research. Thus most of them eventually are routed to Dr. William H. Martin, Director of Research and Development, and Lieutenant General James M. Gavin, Chief of Research and Development. Actual research is conducted by the research and development organizations of the administrative branches and technical services and by organizations under contract to the Army, such as The Johns Hopkins University's Operations Research Office, The George Washington University's Human Resources Research Office, and by private industry.

The talent thus marshaled in the search for answers to questions vital to the performance of the Army's mission is considerable. But it does not begin to encompass all of the specialized knowledge and broad managerial experience that exists within the nation's colleges and universities, private nonprofit foundations and research organizations, industry, business and the professions, and government departments and agencies.

To fully use these valuable resources the Army Scientific Advisory Panel (ASAP) was formed in 1951 by then Secretary of the Army Frank Pace, Jr., as a small and informal organization to advise the Secretary of the Army on scientific and technical matters.

The Army's need for such advice was clearly expressed by General Ridgway in a talk to the ASAP when he was Chief of Staff.

"No one mind, however fine, is capable of conceiving with absolute clarity the solution to all the problems associated with national defense," General Ridgway said. "No one mind is capable of grasping all the essential factors that enter into this immense and complex undertaking. By utilizing the finest minds in our nation and applying them to the problem at hand, however, we can approach more surely the optimum solution. Realizing this, the Army is deeply appreciative of the contributions of [the ASAP], composed as it is of a splendid cross-section of the finest talent in our nation."

In 1954 ASAP became a permanent body and was expanded to a membership of twenty-seven, and later to thirty-seven. Dr. James Killian, President of Massachusetts Institute of Technology, was its Chairman. In 1955 when Dr. Martin came to the Army as an advisor to the Secretary on research and development matters, he found that Mr. Brucker was concerned with getting the fullest possible use out of the ASAP.

"The Secretary is very much impressed with the usefulness of a panel of this sort, but he wants a strong and active group and not just a list of names," Dr. Martin has reported. "He doesn't want membership on the panel to be considered an empty honor bestowed upon well known names by the Army. He wants members who are in a position to advise him and the Chief of Staff as to what the Army should be doing in the technical field. He

wants to be able to call upon the full group or any part of it at any time for advice."

WHEN the Department of the Army reorganized so as to give research and development activities the emphasis that was needed, Dr. Martin became Director of R&D and General Gavin became Chief of R&D. This gave Dr. Martin the opportunity to swing full support to an active and strong ASAP.

At about this time Dr. Killian found it necessary to resign, although he is still available for consultation. He was succeeded as Chairman by Dr. Frederick L. Hovde, President of Purdue University. The group was expanded and four scientific subpanels were organized. These were on firepower, communications and electronics, mobility and CBR warfare. Later a subpanel on human factors was added. In recent months the mobility subpanel was divided into two separate subpanels (one on ground mobility and the other on air mobility), and a subpanel on operations analysis was added. Thus there are now seven subpanels. Each of the fifty-six members with the exception of Dr. Hovde and Dr. Detlev W. Bronk, President of the National Academy of Sciences, is a member of a subpanel. The Vice Chairman, Mr. Richard S. Morse, President of the National Research Corporation of Cambridge, Mass., is also Chairman of the subpanel on Operations Analysis.

An officer assigned to the Chief of R&D serves as Executive Secretary of ASAP. Presently he is Major J. D. Neumann. Each subpanel is served by a military consultant and a staff assistant, both from officers assigned to R&D.

In the words of its charter, the ASAP "will advise the Secretary of the Army, Chief of Staff, Director of Research and Development, and Chief of Research and Development on all scientific and related matters of particular lines of endeavor on which emphasis should be placed; advise when research in a specific area has progressed to such a point as to permit effective application to military operations; advise on all matters which may influence the successful prosecution of an effective research and development program."

What plainly emerges from this officialese is that the role of the ASAP is to give advice to the top echelons of the Army Department. But advice to be meaningful and useful has to be informed.

TO get a clear picture of the ASAP at work, let's look at what ASAP did when presented with the second question posed at the beginning of this article, namely, officer selection for the future.

More than a year ago, when the Army suggested that advice on Army research on officer selection would be helpful, Dr. Hovde assigned the task to the Human Factors subpanel whose chairman is Dr. Leonard Carmichael, Secretary of the Smithsonian Institution. A working group was formed from the members of the subpanel and since this group believed it would need the advice of men competent in the fields closely related to testing and selecting skilled manpower, it obtained the services of three consultants. These were two psychologists, Dr. Henry Chauncey, President of the Educational Testing Service of Princeton, N. J., and Dr. Harold Edgerton, Vice President of Richardson, Bellows, Henry & Company of New York City, and a professor of Education, Dr. Phillip J. Rulon of the Graduate School of Harvard University.

This group was extensively briefed on the Army's work on the problem. Officers of the Deputy Chief of Staff for Personnel and specialists from the Personnel Research Branch of TAGO, among others, outlined the problem and the approach the Army was taking to obtain the right answers.

After more than a year of investigation and study the working group of the Human Factors subpanel made its recommendations: It advised the Army to put more emphasis on the selection of young *combat* leaders and to concentrate on developing combat performance measures that would make it reasonably certain it could spot the potential combat leader before he was commissioned.

For those officers who have their own ideas about the efficiency report and efficiency index—and what Army officer hasn't?—it should be explained that the aid of the ASAP in this field was only recently solicited by the Army. Thus far the Human Factors subpanel has established another *ad hoc* working group and has selected three consultants to assist it. The group has been briefed on the problem by the personnel division of the General Staff and the office of the Adjutant General.

Much of the work of the ASAP is in classified areas and can't be discussed. For that reason it has been possible here to describe briefly only work in a non-classified area.

THE full panel meets formally twice a year. Subpanels meet according to the need. Not all meetings are in Washington. The spring 1957 meeting of the full panel was at Fort Benning, and as Dr. Hovde said at that time the members had found they couldn't do their job if they met only at the Pentagon and that it was "much more fruitful to go and see what our Army is doing at various places."

A number of the members of the subpanel on fire power travelled to the AEC's Nevada testing grounds this summer to see a shot and to be briefed on some of the developments in nuclear weapons of interest to the Army. Others visited DEW Line installations in the Arctic to inspect the contributions of Army engineers and communications technicians to this project.

ASAP is strictly an advisory group on scientific and technological problems. It gets into operations only as its technological work is affected. "We don't use the Army Scientific Advisory Panel as a sounding board for our money or political worries," Dr. Martin has said. Thus the Army does not trouble it with budgetary problems, roles and missions troubles, or strategic concepts.

Is the ASAP worthwhile? Is it doing the designed job? Dr. Martin, General Gavin, General Taylor and Secretary Brucker all will attest that it pays off.

But perhaps the best evidence that ASAP is doing its job is the enthusiasm of its members. They are busy men and not inclined to give much time to activities they consider of little usefulness. The fact that most of them attend meetings faithfully and participate so willingly is evidence that the jobs the Army gives ASAP are challenging and worthwhile. It is possible that when the full history of these troubled times can be written it will be revealed that the members of ASAP's subpanels contributed mightily to the preservation of our freedom and our civilization.

THE SCIENTISTS WHO SERVE ON THE ASAP

THE ARMY SCIENTIFIC ADVISORY PANEL

Chairman

Dr. F. L. HOVDE
Pres., Purdue Univ.

Vice Chairman

Mr. R. S. MORSE
Pres., Nat. Rsch. Corp.

Firepower Subpanel

MGen. K. D. NICHOLS
Consulting Engineer
Washington, D. C.
Chairman

Dr. JOHN R. DUNNING
Dean, School of Eng'g
Columbia Univ.

Dr. ALVIN C. GRAVES
Los Alamos Sci. Lab.

Dr. C. C. LAURITSEN
Prof. of Physics
Calif. Inst. of Tech.

Air Mobility Subpanel

Mr. EUGENE VIDAL
Aviation Consultant
Chairman

Mr. HARVEY GAYLORD
President, Bell
Helicopter Corp.

Mr. JAMES M. HAIT
Exec. VP, Food Mach.
and Cml. Corp.
Chairman

Mr. W. M. HAWKINS
Asst. Gen. Mgr., Lock-
heed Aircraft Corp.

Dr. A. A. NIKOLSKY
John C. Green Found'n
Princeton Univ.

Mr. K. T. KELLER
Detroit, Mich.

Ground Mobility Subpanel

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Atlantic Refining Co.

Mr. R. C. KERR
New York, N. Y.

Dr. C. S. DRAPER
Dept. of Aero Eng'g
Mass. Inst. of Tech.

Dean M. P. O'BRIEN
Coll. of Eng'g
Univ. of Calif.

Mr. C. H. ZIMMERMAN
NACA, Langley Aero-
nautical Lab.

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Menlo Park, Calif.

MGen. L. J. SVERDRUP
Pres., Sverdrup
and Parcel, Inc.

Communications and Electronics Subpanel

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Dir., Syracuse Univ.
Research Corp.
Chairman

Dr. RALPH BOWN
Maplewood, N. J.

Mr. DONALD G. FINK
Dir. of Research
Philco Corp.

Dr. A. G. HILL
Dir. of Rsch., WSEG

MGen. E. H. LEAVEY
Pres., IT&T Corp.

Dr. A. LONGACRE
Dir., Def. Systems Labs.
Syracuse U. Rsch. Corp.

JAMES W. McRAE
...s., Sandia Corp.

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Univ. of Virginia

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Wooldridge Corp.

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...lat. Rsch. Corp.
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...E. KIMBALL
...D. Little, Inc.

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Dir., Shockley Semi-
conductor Lab.

...HN E. VANCE
...Dept. of Chem.
...York Univ.

Dr. ERIC A. WALKER
Pres., Penn. State U.

Human Factors Subpanel

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Social Psychologist,
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Dr. W. A. HUNT
Prof. of Psychology
Northwestern Univ.

Dr. K. W. SPENCE
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Univ. of Iowa

Dr. R. L. THORNDIKE
Prof. of Educ., Tchrs.
Coll., Columbia Univ.

CBR Subpanel

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Univ. of R. I.

Dr. CHARLES E. WARING
Head, Dept. of Chem.
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Dr. JOHN D. RYDER
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Mr. GORDON N. THAYER
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Dr. ERNST WEBER
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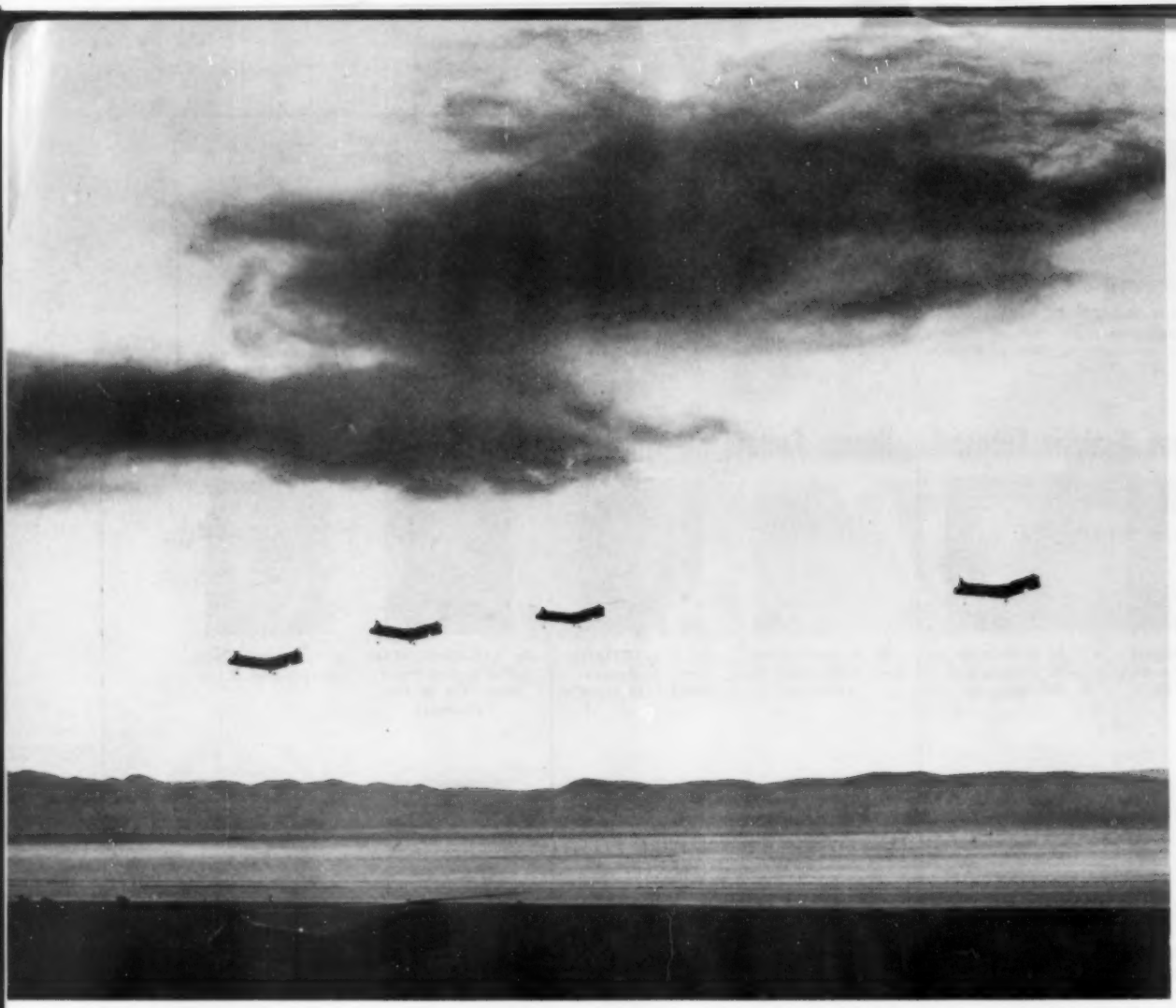
Brooklyn Poly. Inst.

Dr. J. B. WIESNER
Dir., Rsch. Lb. of Elct.
Mass Inst. of Tech.



Dennis Schieck, *Las Vegas Review Journal*

Smoky's cloud drifts away as low-flying copters of the 85th Avn Bn (Prov) carry Task Force Warrior to jump-off positions

Dennis Schieck, *Las Vegas Review Journal*

THE SMOKY SHOT

Company-sized Task Force Engages in Infantry Test at Atomic Test Site

This small group perched on a mountain knob miles behind the shot were a small portion of the some 700 uniformed observers on the scene. Inevitably someone remarked that "Never have so few been watched by so many"

ARMY

Upon disembarking men of the task force moved to assigned positions fast

When first planned, the 1957 Army participation shot at the Nevada Test Site was to involve an infantry pentomic battle group in a four-day maneuver. A number of factors, including the lack of sufficient helicopters to lift a reinforced battle group, caused the plan to be scaled down to a company-sized task force, which was given the name of Task Force Warrior. It consisted of Company C, 1st Battle Group, 12th Infantry, from Fort Lewis, Washington; a platoon from the Canadian Army's 1st Battalion, Queen's Own Rifles; and other elements from the 1st Battle Group, 12th Infantry. The Commander of TF Warrior was Capt. George D. Pebles.

The airlift was provided by the 85th Aviation Battalion (Prov), of Fort Bragg and Fort Benning, commanded by Lt. Col. Charles Ernest.

Because of wind conditions on the morning of the shot an alternative plan of maneuver had to be followed. Actual results are being analyzed by an evaluation group from Fort Benning.

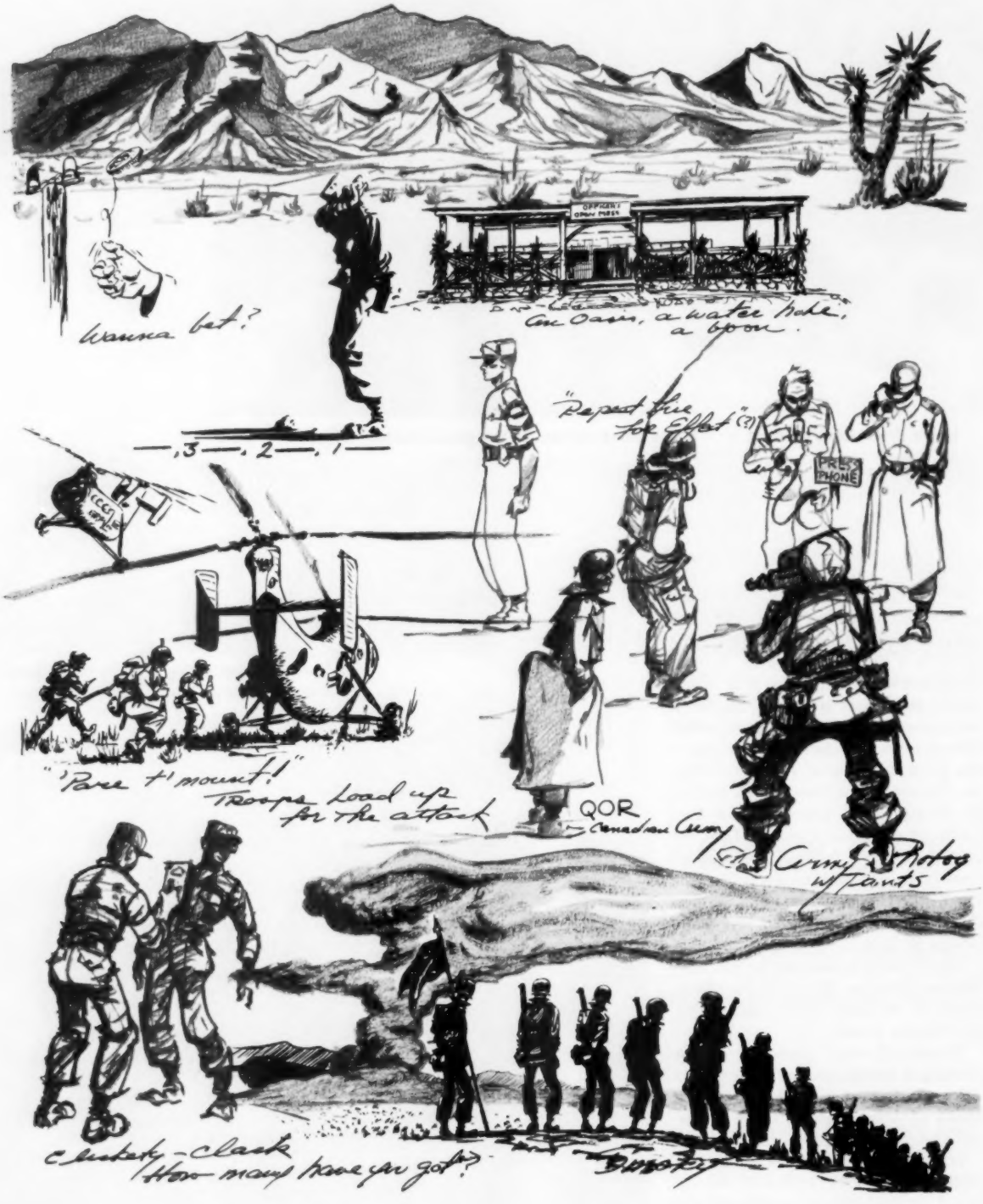
Brig. Gen. Walter A. Jensen, Deputy Director to Lt. Gen. Robert N. Young, then CG, Sixth Army, commanded the exercise.

Dust clouds still hovered over the desert as Task Force Warrior marched toward its rendezvous with the helicopters

Dennis Schieck, *Las Vegas Review Journal*

A Soldier-Artist's impressions of Camp Desert Rock and Army participation in Shot Smoky

LT. COL. LACHLAN M. FIELD



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THE COMMUNIST IN YOUR HOME

COLONEL W. C. HALL

In a light, but perhaps ill-considered moment, our author tells what you can learn about communism from your wife

COMMUNISTS do not wear fur caps, sport bushy whiskers, or carry bombs resembling bowling balls. We do not detect Communists by their appearance, but by their actions. Bear with me and we shall check your home for Communists—and the results may surprise you.

For the past ten years, literally hundreds of scholars have been studying communism. Individually and in groups, working for universities, institutions and foundations, a tremendous mass of material in the form of articles, pamphlets and books has been turned out. Titles range from "Blueprint for World Conquest" to "Cracks in the Kremlin Wall."

The object of much of this research and study is to learn about the behavior of Communists. What motivates them, what makes them tick? What is the proper way of dealing with a Communist?

Possibly the best way to learn about Communists is to study individuals. With this end in mind, refugees, defectors, and emigrés have been exhaustively interviewed. The results have been somewhat less than satisfactory in giving us a good picture of Communist behavior.

It is a remarkable fact that all these students have overlooked an important source of information. Most of us have someone available for continuous and intimate study—for the chances are better than even that your wife, consciously or unconsciously, is a Communist.

It was while reading Admiral C. Turner Joy's excellent *How Communists Negotiate* that I first detected a note of familiarity in the Chinese Communist methods. Then I realized that either American women acted like Communists or that the Marxist-Leninist line was developed through using feminine logic. Which came first, the chicken or the (bad) egg?

Let me attempt to prove my point. Admiral Joy's text explains in detail the techniques of Communist negotiating during the Korean peace talks. If your wife talks like a Communist, acts like a Communist, and thinks like a Communist (possibly in that order) you should be convinced. I have selected for examination seven examples of Communist technique in negotiating.

The Loaded Problem

Admiral Joy tells us that the Communists always fight hard to set up an agenda so that agreement on an item as presented would constitute a conclusion favorable to them. For example, in Korea they wanted to talk about "establishment of the 38th parallel as the line of demarcation." Acceptance of this subject would have prevented discussion of and agreement on the line of contact north of the 38th parallel as was actually done.

Tell me, does your wife ask you: "Shall we go to a movie tonight?" or "Shall we go see Charles Boyer at the Palace tonight?" If it's the latter, and you want to see Marilyn Monroe at the Bijou, you have a problem.

The average man invariably starts an argument with his wife at a disadvantage since his ideas on fair play and sportsmanship impel him to let her define the problem with the thought of getting off to an even start.

Red Herrings

Ask a Communist about slave labor and he will start shouting about lynchings in our South. Question him about his secret police and he will begin a harangue on our overseas bases as threats to world peace. Take the offensive aggressively on some subject—no matter what—and avoid discussing the distasteful one.

Any criticism of the wife's family will automatically bring references to Uncle Charlie, the skeleton in your family's closet. Doubt the need for that new dress and you'll find yourself in the midst of that poker party of last month trying to explain the uncanny luck of a couple of your opponents. The subject of the dress will be forgotten.

Disrupting Incidents

When negotiations are not proceeding according to their plans, the Communists may manufacture an incident. During the Korea peace negotiations at Kaesong, the Chinese claimed that our planes had bombed the neutralized area. They produced some metal, including what appeared to be a portion of a plane's wing tip, insisting that they were bomb fragments. The Chinese also claimed napalm had been used, although they did not point out any scorched areas. The furor over the alleged bombing disrupted negotiations for some time.

Judges and lawyers have never been able to prevent a woman being questioned in court from pulling out her compact and doing over her make-up, thoroughly disrupting the interrogation.

I have a friend who claims that he

Colonel William C. Hall, Corps of Engineers, *a contributor to* ARMY *and its predecessors for many years, will be remembered for "A Medal for Horatius" (January 1955), a classic of military humor which was widely reproduced. He is a 1931 graduate of the Military Academy who transferred from Infantry to Engineers in 1936. After graduating from the National War College last year he is now J4 of the Alaskan Command. His last contribution was "General Staff or Directorate?" (February 1957).*

can always tell when he's winning an argument. His wife invariably turns up the sound on the television set or the radio so that he has difficulty in making himself heard. When he turns the sound down, this brings protests which distract him from the original discussion.

Wearying Tactics

The Communists fully understand that Americans like to settle problems in a minimum of time. In Korea they stalled interminably on matters of procedure and other insignificant items not concerned at all with the subject of an armistice. Then, too, negotiating with Communists invariably results in being subjected to long harangues on the same subjects over and over again. They seem never to tire of telling of their desire for peace, their love for their fellow men, and their desire to reach a fair settlement. These irrelevant outpourings have only one objective: to wear down the opposition.

Try getting down to brass tacks on, for example, the budget in your household. You'll be led a merry chase, including descriptions of your extravagances of the past, your recent bridge losses, and the cost of your lunches. All this prolongs the budget discussion until you lose your patience—and your carefully thought out ideas are forgotten.

A man I know, whose anonymity is essential to his continued good health, tells me that he frequently seems to be getting the better of things—until he goes to bed. Then a rehash goes on in great detail and continues, as he says, on through the night. Any suggestion of going to sleep and talking it over in the morning is considered by his better half as an admission of weakness.

Big Demands

Admiral Joy explains that the Communists will propose and tenaciously argue for some proposition which they know will never be accepted. They seem to figure that if they propose that two plus two equals six, the opposition may eventually agree that two plus two equals five.

I was present in a household in Washington when the wife started a campaign for a summer—a full three months—at the beach. The argument went through complicated financial discussions, then into personalities. At the time I left, I expected to be the principal witness at divorce proceedings. Three days later, when I saw the couple again, he'd agreed to the month of July. She seemed quite happy with the result, while he thought he'd won a victory.

Exploitation

Dealing with Communists must be on a strictly *quid pro quo* basis. Any concession, made to expedite negotiations, will be considered a sign of weakness and will have the opposite effect. An agreement obtained by the Communists without lengthy wrangling will very likely be followed by an increased requirement. The United Nations' concession on aerial observation of the truce zones in Korea resulted in their taking an inflexible position opposing any provision prohibiting the construction of airfields.

If you are too quick to agree to the new evening dress, you will be thanked later for the accessories too, for surely you understand that shoes, earrings and purse are essential before the dress can be worn.

Denials

These may take the form of a veto, welshing, or distortion of facts.

Unless negotiations are carefully carried out, an agreement will not prove binding unless it proves to be to the Communists' advantage. There will be an "if" or a qualifying clause which will give them an out. The Communists have different definitions from ours for words such as liberty, democracy and peace. In addition, their definitions are so flexible that it is hard to hold them to an agreement after it has ceased to appear attractive from their viewpoint.

Our female of the species, too, has her definitions of things, and some of these are very flexible. Take the feminine concept of time: her "hour" has no direct relation to clock time. In addition, the weather, her state of health, and a dozen other things change conditions and can be used as reasons for a change in plan.

After completing a very detailed agreement on the delineation of the ground battle line in Korea as the truce line, the Chinese Colonel Tsai turned to previously plotted points on the line, indicating that he could not accept them. According to Admiral Joy, the first point designated was one which the Chinese had himself marked on the map in red pencil.

The average woman seldom resorts to such welshing tactics. She will usually employ some more involved and subtle technique. From my observation, the exceptions occur when an attempt is made to collect on a bet which she has lost.

In replying to charges which are true, the Communists may deny them or distort them. Since a flat denial may at times be easily disproved, distortion is the more common tactic.

Nearly 100,000 United Nations troops were carried as missing in action. The Communist propaganda radio boasted of the capture of 65,000 prisoners. Yet when lists of prisoners were exchanged, the Communists named only about 11,600 prisoners of war. The Chinese claimed that the remainder had been released at the front and had returned to our lines. Only 177 had actually reached our lines after release. Yet the Chinese claimed for months that some 55,000 had been released and that "they must have gone home."

The best feminine example of this technique which I have seen lately occurred after a friend's wife had rammed the family car into the back of another. After two accounts of the accident, indicating that the other party was at fault, did not seem reasonable, a third story was rendered indicating that the other car had made a most abrupt and unreasonable stop after signalling for and starting a right turn. Somehow, the insurance company made some kind of settlement on the third story.

So far as the study of communism and the behavior of Communists is concerned, these findings may be the key—the Rosetta stone. One thing is certain: the Communists in the USSR have learned to deal with feminine arguments. Otherwise you wouldn't find Russian women pushing plows, lifting and carrying heavy loads, and sweeping streets.

The Russian Communist philosophy is contained in their writings on "dialectical materialism"—which even they can't understand. Our students can now dispense with the study of this obscure and dull material and turn to a more interesting subject: women.

And how about you? How did the mistress of your household measure up on our seven topics? Is she by nature a Communist? And if so, what can you do about it? I haven't the slightest idea. Thank heaven my wife isn't like that!

Fear of the unknown is robbing us of the ability to protect ourselves from toxic agents. So let's

Take the Mystery Out of CBR

CAPT. JOHN R. JARVIS

THE widely-held assumption of mankind that if you don't talk about an unpleasant fact it will disappear includes the subject of toxicological warfare. Because neither gas nor biological agents were used in World War II, it is generally assumed that such means of destruction are obsolete. I do not believe that is true and I believe that for our own safety, the United States cannot consider toxic attack by an enemy as unlikely. A mistake here could lead to national disaster. Toxic weapons exist and they won't disappear by making talk about the subject taboo.

What can we do to strengthen our defense against CBR warfare?

First, we should realize that toxicological agents are as much a threat to our national existence as nuclear weapons, and we must protect ourselves against them. We should integrate into our civil defense planning the means the U. S. Army Chemical Corps has perfected for military use against toxic weapons. We must continue to exploit the great strides being made in chemical and biological research by industry and adapt these advances to defense uses wherever possible. Lastly, our CBR defense must be so strong that an aggressor will see no profit in using such weapons, and so be deterred from using them.

Capt. John R. Jarvis served as an enlisted man with artillery and infantry units in Europe during World War II. He was commissioned in the Artillery from ROTC in 1947 and transferred to the Chemical Corps in 1951. He is now a chemical liaison officer and adviser at The Johns Hopkins University's Operations Research Office.

CBR as a deterrent

When our planning against toxicological attack can match our atomic defense system, when our means of

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total defense can meet any potential attack, then we shall have achieved the CBR strength that can serve as a tool for preserving total peace.

Why should an attacker consider CBR warfare when nuclear weapons will do the job so much quicker? The answer is simple. Nuclear weapons are means of total destruction. CBR weapons systems have a common attribute: they do not, in themselves, destroy facilities, but instead attack directly the people who operate those installations.

The generic term *toxic*, or *toxicological*, is quite often applied to chemical, biological and radiological (CBR) warfare, singly or collectively. For this reason these agents are classed as weapons of minimum destruction, whereas those inflicting maximum destruction affect not only living things but material objects as well.

We are spending much time and effort in preparing to defend ourselves against nuclear attack. But in building that strength we must not overlook the threat of CBR warfare. Should we survive an atomic strike only to fall victim to a toxicological attack?

Dispelling the mystery of CBR

One thing that has worked to our detriment in building our defense against CBR weapons is the aura of mystery that surrounds the subject. Actually there is no mystery about them, for we see forms of chemical, biological and radiological elements about us in our daily lives. The housewife who cooks with gas controls a lethal agent. The unthinking person who dry-cleans with carbon tetrachloride in a closed room exposes himself to much the same danger one encounters in a gas attack. When you drive your car with all windows shut tight you invite the deadly effects of carbon monoxide gas. Many workers constantly face the hazard of chemical fumes in industrial plants, and some cities are afflicted with dangerous smog that is not unlike the aerosol cloud of a war gas. As for biological warfare, we constantly fight the forces of Nature to maintain our health; we encounter radioactivity in cosmic rays, X-ray photos, and the radium dials of watches.

Gas wasn't used in World War II or in Korea because the stature of the allied chemical industry was such that the Axis in World War II and the Communists in Korea knew that introduction of gas would boomerang. Because it was not used in two great conflicts has led many to believe that the use of gas in warfare is obsolete.

But gas warfare is far from finished. If we plan our defenses without considering the possibility that it might be used against us, we may lay ourselves open to disaster. Let it be clear, when we speak of "defense," that we mean we will retaliate with such weapons if they are used against us.

The now famous speech of Soviet Defense Minister Georgi Zhukov before the Communist Party Congress in Moscow last January included two significant statements. One was that air power and nuclear power would not win any future war. The other was more involved, but more to the point: the USSR is rebuilding its armed forces on the basic assumption that the means and forms of a future war will differ in many respects from past wars. He also declared that any new war will see the mass use of air power, various types of missiles, and means of mass destruction like nuclear, chemical and biological weapons. The threat is very real, and the fact that we may disagree with Zhukov in classifying chemical and biological weapons in the "mass destruction" class—actually, as I pointed out, they can be weapons of minimum destruction—does not detract from his warning.

Nothing would more quickly discourage an aggressor's use of toxicological weapons against us than our ability to protect ourselves and to turn such weapons instantly and effectively against him.

Knowledge dispels fear

We cannot allow the widespread feeling of don't-talk-about-it-and-it-will-leave to flourish in regard to chemical and biological warfare. We know that other well-prepared nations are continuing their research and development of toxic weapons. While our means of defense against them are rapidly improving, such advances will avail us little if our people fail to realize the potential hazards of chemical and biological warfare.

The supreme test of a man, or of a nation, is an ability to act coolly, intelligently and prudently under stress. In matters of national survival emotion is no substitute for intelligence, and rigidity cannot substitute for prudence. Education can do much to overcome the emotional factor and the rigidity of thought induced by fear of the unknown. We must bring CBR warfare out of the mental closet where we have hidden it, strip it of sensationalism, and consider it realistically.

Now under test, this new mask developed by the Army's Chemical Corps doesn't have the old-style canister. Instead air is filtered through pads of lightweight, pliable gas-aerosol material which are enclosed in cavities molded into the facepiece. Air intake is centered under the nose and exhaust units are on each side. Man in foreground is adjusting his mask by pressing it against his face to force out unfiltered air before the facepiece closes.

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THE MONTH'S CEREBRATIONS

IT'S IN THE BOOK

LIEUTENANT ROBERT R. RAFFERTY

The solution to almost every brain-twisting problem we are faced with in our profession of arms is written down somewhere. Unfortunately, this mass of printed material clutters our orderly rooms or headquarters more often than it serves as a source of information, guidance, and experience.

One reason we are so paper-bound is because we don't know how to use properly the paper we have.

For example, the colonel orders a parade. The S3 proceeds to publish his own personal guide on how it should be done. Thus another paper has been added to the stockpile of unnecessary trivia as everything he writes is in FM 22-5 which is widely available.

Haphazard filing also leads to duplication. But a bigger boon to stockholders of the paper manufacturing plants is the stubborn refusal to learn from the mistakes of others.

Operation Gyroscope provides us with an excellent illustration. A Gyroscope unit is given orders for the move and the task of getting everything ready is passed down to the companies (naturally). The staff tells the companies to measure and weigh their equipment and make out shipping documents. Measure and weigh equipment that is standard? It's a certainty that somewhere in the files of the tech services are the measurements and weights of every piece of equipment the Army has. And if it isn't available there, the information is surely in the records of other units that have made moves in the recent past. But, it's easier for the staff to pass the job down to the troops than to dig it out.

Another place where we might save a great deal of effort is the departments of the service schools where our FMs are written. These men might just as well stop putting out changes to the manuals because their hard work of keeping the Army up to date usually goes unheeded. As a member of a recent inspection team that went all through a major command, I found it was a rare S3 who had an up-to-date FM file. In most cases the person responsible for the file had no idea of the importance of his job, and, what is more important, he had no idea of how to use DA Pamphlet 310-3 (Index to Training Publications). Many did not even know of its existence. As a result, the changes were missing (most of those received in initial distribution had never been posted) and many obsolete manuals were in the files years after they had been superseded. Maintenance depended too much on the initiative of the person maintaining the files rather than on a system.

The results could be chaotic to the training program of any unit.

The material we need for most of our tasks is already down on paper; DA and our predecessors have seen to that. Our job is to find out where it is and how to use it and then train both ourselves and our men to use it properly and fully.

It is far easier and more profitable to heed the voices of experience than to expend our efforts batting our heads up against each problem that comes along as if it were something new under the sun.

Lt. Robert R. Rafferty, Infantry, *assistant PMST at St. Mary's University in San Antonio, Texas, wrote "Physical Fitness is a Must" in the January issue.*

ALL OUTSTANDING NONCOMS?

CAPTAIN HARLAN G. KOCH

SHOW your commanding officer how to rate enlisted men."

This mild, penciled rebuke by a personnel clerk was attached to some clearances and returned to my first sergeant. Out of 200 trainees I had rated 20 of them SUPERIOR-SUPERIOR. After my equally troop-duty-stale sergeant dug out AR 623-201, we found that the highest rating now possible is EXCELLENT (Conduct) and EXCELLENT (Efficiency). SUPERIOR is out.

Not wanting to suffer criticism from the personnel clerk again, I closely examined this regulation and extracted parts of it for handy reference. In the future I wanted to be sure that I rated properly and justly. Study revealed that the highest efficiency rating of EXCELLENT denotes an individual who "is *above average* in the majority of elements *in comparison to all others* in like grade and responsibility." Conductwise, a rating of EXCELLENT denotes that the individual has made no unfavorable impressions and that he conducts himself in an exemplary manner. Now let's take the next step down. A rating of GOOD for efficiency means that the individual has an "average overall performance in the assignment. Normal expectation of an individual." A man whose conduct is rated GOOD is one who makes a "sincere and faithful effort to satisfactorily accomplish assigned duties; reliable; competent; conducts himself in a proper manner." An efficiency rating of FAIR indicates that the noncommissioned officer is below average in some elements of the assignment. We have noncommissioned officers who perform in a FAIR manner. If we didn't, if they all were excellent, then running a company would be like running a rest home. A man can be honorably dis-

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charged with a conduct rating of GOOD and an efficiency rating of FAIR.

Probably all of us would be pleased to have a first sergeant or platoon sergeant who was GOOD-GOOD; that is a man who conducts himself in a proper manner and operates in a manner normally to be expected of one of his grade. Quite naturally, we would be overjoyed to soldier with an EXCELLENT-EXCELLENT platoon sergeant, who makes no unfavorable impressions, who conducts himself in an exemplary manner, and who is above average in the performance of his duty in comparison to *all other* platoon sergeants.

If you'll check your personnel records, you'll find that ninety-five per cent of the noncommissioned officers in your organization came to you with a rating of EXCELLENT-EXCELLENT. They are all above average in comparison to all others of like grade and responsibility. Don't believe it.

I recently rated a platoon sergeant and a first sergeant. They had both made sincere and faithful efforts to satisfactorily accomplish their duties and they conducted themselves in a proper manner. I gave them a conduct rating of GOOD. They hadn't conducted themselves in an exemplary manner and there had been a few unfavorable impressions. For their efficiency rating I gave them GOOD. In their jobs they performed in an average manner normally expected of an individual. They were definitely not above average when compared to all other platoon sergeants and first sergeants I have known. Yet I was happy to have had them in my company.

By following the regulation I did them a grave injustice. The personnel clerk came running down to the orderly room. "Sir, you can't do this. If you don't give them an EXCELLENT-EXCELLENT they cannot receive a Good Conduct Medal." We checked the other regulation, change 7 of AR 672-15 which reads in part: "All conduct and efficiency ratings must be recorded as EXCELLENT or higher" in order to receive the Good Conduct Medal.

In the first place there is no rating *higher* than EXCELLENT, and secondly, why shouldn't a man with GOOD conduct be given a Good Conduct Medal? What action did I take? I changed my ratings to EXCELLENT-EXCELLENT. In doing so, however, I contributed along with thousands of others in making a farce of enlisted efficiency ratings. It seems that a man is rated below EXCELLENT-EXCELLENT only when he is ready for "board" action.

From the company level it doesn't appear that it would take a great deal of effort to change the regulations and to give the Army a meaningful rating system. It would assist, measurably, the person screening for top men. Also, the man who is *truly* outstanding, who gives no unfavorable impressions, and whose efficiency is above average *in comparison to all others* in like grade and position should be awarded the Commendation Ribbon, not the Good Conduct Medal.

Captain Harlan G. Koch, Armor, *with the 4th Armored Division at Fort Hood, Texas, wrote "Bayonet Training —M1905?" in the September issue.*

WHO'S GOT THE BOOK?

CAPTAIN CHANGE ONE

"The book" is a phrase with long and honorable military service. You can throw it; you can follow it; you can be called a book soldier. "The book" of course refers to the conglomerate mass of written material which directs and guides the Army today. Depending on the context in which it is used, it may express either praise or condemnation. In either case the unspoken assumption is that all soldiers have access to "the book," with the point in question being simply the extent to which it is followed.

The sad fact is that a large number of today's soldiers never have a chance to be book soldiers, because, in fact, they do *not* have access to "the book." As equipment and administration have increased in type and complexity through the years, so have the necessary publications multiplied and interlaced. Units today are organized and equipped with the latest methods and means, but all too often the troops don't get the written word.

When Second Lieutenant Neofight reported to his first company the unit arms room was entrusted to his eager but inexperienced care (this in addition to command of a platoon). Being mentally alert, Neofight realized, after an interview with the mentally inert armorer and a review of the last IG inspection results, that he was in charge of a badly disorganized section. He launched the armorer on a general cleanup and preparation for inventory and decided to start from scratch by finding out what equipment he should have. After some discussion and a direct order, the supply sergeant was induced to part with *the* copy of the company TOE. (Neofight didn't actually mind signing for it.) A night of study in the BOQ and he knew the major items by heart and had a list of the SNL he needed to check accessories and spare parts.

In the supply room the next morning the supply sergeant received the TOE with maternal fervor and returned it to the company safe. The request for SNL which followed increased his normal good humor, for he instantly produced a full sixty per cent of those on the lieutenant's list. The missing ones were proudly shown to be on requisition (dated a few days after the last IG inspection, since the company publications on publications were slightly out of date).

As this discussion progressed, the company commander entered the supply room, listened a minute, and then interrupted with the information that there were three changes to the TOE which the company didn't have. The battalion S4 kept the only available copies of these treasures in his field safe, but they were freely available to anyone who visited the S4 office where they could be read under the continuous scrutiny of the S4 or his authorized representative. As the company commander departed, he added that a check of the SNLs on hand would be necessary, since most

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Schlieren photograph of supersonic flight patterns in wind tunnel.

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North American designs for the future. The X-15 rocket plane, now in production, will carry man higher and faster than ever before. Other major supersonic projects now in advanced development include a long-range interceptor for the Air Force at North American's Los Angeles Division and the A3J, a carrier-based attack weapon system for the Navy, at the Columbus Division.

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were missing changes and several had been superseded. Further, he hoped that the arms room would be in shape for the inspection next week.

With a deadly glance at the supply sergeant, who had prudently retired to the back bin for some studious sheet-counting, the lieutenant fled, already formulating plans for burglary of the nearest publications depot or, at the very least, demolition of the S4 field safe.

As a reconnaissance company commander trying to find out what he was supposed to have in his second-echelon tool set, I have chased changes through battalion and regiment all the way to post ordnance, and there found that the Change 12 they had was two or three behind. How can a commander know and use his unit's equipment, when he can't find out what he should have?

As a company officer in a reconnaissance battalion, I have searched for just one copy of the SNL for M2 carbines. I found the only copy in the battalion in Company B's supply room (the supply sergeant had a friend in a nearby publications depot). Each company in the battalion had fifty or more of these weapons, and (yes) requisition had been submitted.

Not only in supply, but in training, maintenance, and any other field, up to half of the effort expended on any given job at company level if it is done right, is spent in running down the references. As the level rises through battalion to regiment, combat command, and above, publications become increasingly available until a point of such altitude is reached that the only delay in receipt of publications is shipping time from the printers. Thus, the "checkers" usually have the information, and the "doers" often don't.

Does G4 want the TOE for Neofight's company? If he wants it, frequently, the odds are that he has a copy (with all changes) in his desk drawer. If he only wants it now and then, his administrative officer's copy will suffice. In any case, central files always has one. Does this situation of plenty at the top and poverty at the bottom provoke any suspicions? It does. Making the logical assumption that enough copies of a given item are put into the top of the system, there must be leaks between there and the bottom. The system must leak into various notebooks, desk drawers, and bookshelves at other than company level. Note that as the power of a commander to rectify this situation increases through the years, evidence of the problem diminishes in his immediate area, and the troops he left below still want in vain.

To one admittedly unversed in the intricacies of publications supply procedures, it appears that the system now in use is not as up to date as the material it is supposed to disseminate. Bulk shipments of desirable information invite the inroads of intervening headquarters. Formal requisitions with their specific dates for submission, cancellations, due-outs, automatic issues, and so on, conspire to complicate and delay the prompt delivery of important instructions to the people at the lower levels who are to comply.

It appears that several bets are being missed in the present system. The only way to make sure that each publication reaches the intended recipient is to print his name on it. Civilian experience, which has been so zealously converted to Army use in many other fields, can certainly provide ways and means for accomplishing this labeling. The subscription service of any large magazine can supply a wealth of experience. A machine-records set-up which can produce a stack of labels or wrappers for each unit authorized a certain distribution is not beyond the reach of existing automation techniques. Delivery by direct mail, even if paid for at existing rates, would be cheap when balanced against the speed and efficiency obtained, not to mention the manpower savings from the obsolete distribution system.

Using a direct-address system, anyone actually in need of a certain publication could requisition from the distribution point by mail. For the vast majority of unclassified Army publications there is no civilian market, and in almost every case the soldier who wants a publication wants to use it for the benefit of the Army, and he should get it. One copy of the TOE per company (the cost per copy must be only a few pennies) is absurd. Any officer or non-commissioned officer of the company should be able to obtain a copy. If the Government cannot stand the expense of such distribution, most career officers and non-commissioned officers would gladly pay for what they need, and good management of a cash system could probably turn a profit for the taxpayer.

Under the shadow of the atomic cloud, behind the roar of a mechanized Army, it may seem silly to worry about the distribution of publications. To *have* to worry about them is what is stupid, and the sooner the problem is disposed of, the sooner and more efficiently we can get on with our bigger tasks.

WHAT'S WRONG WITH BEING MILITARY?

LIEUTENANT COLONEL EDWARD M. FLANAGAN, JR.

EDITORIAL writers, news analysts, comedians, commentators and other assorted broadcasters like to jab critically at what they call the military mind. Recently, the number of brickbats in the air has become alarming, much to the detriment of the Army.

One of the hardest blows was a recent order in the Pentagon, fortunately rescinded at the last moment, which would have put all officers on duty at the Pentagon in the disguise of civilians. Undoubtedly this order was based on a sincere desire on the part of its originator to promote the welfare of the country, but it illustrates clearly the old aphorism, slightly paraphrased, that "they love you, soldiers, in wartime but give them victory and you've had it."

The military man feels almost as if he must apologize for his very existence and explain patiently to his uncomprehending brother in the magnificent outside world just what it is that possessed him to choose of his own free will the career and life of a soldier. How, they ask him, can anyone in his right mind possibly stay in such an archaic, parasitical, regimented, unbending, unimaginative setup?

We in the Army are lending our support to the fantasy that the Army is no place to pursue a career.

The dedicated soldier seems to be almost a thing of the past. To be dedi-

Here's a chilling experience! These Air Force men, wearing oxygen masks and special flying gear, are in a cold weather chamber, which tests their reactions at high altitudes. This is but one phase of relentless experiments to conquer the mysteries of upper-air flying. Such tests require the services of skilled personnel, who must often be shifted from one assignment to another. To get them to new locations swiftly—thus saving valuable man hours—the military relies on the dependable Scheduled Airlines. Call your Scheduled Airlines representative—and he'll tell you how to save pay and per diem dollars, while keeping your men **ON THE JOB** . . . not "on the way".

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cated to duty to one's country in this day of so-called peace is to put one's sanity in question. For anyone knows that conscientious duty to one's country is only for the inept, unbalanced and weak-brained.

Many of our learned officer confreres have written beautiful and brilliantly logical eulogies on the occasion of their resignations, apologies for their action, laments for a lost career. They have expressed deep sympathy for us less inspired and less able people who plod on unhappily and unambitiously through a dreary career while they, with a "this hurts me deeply but I just must do it" farewell on their lips head for the greener fields of the challenging, materialistic, outside world.

A career in the Army is a way of life with deep-rooted traditions, time honored customs and, above all, an undying camaraderie among the faithful. Nowhere else can one find such devoted friends.

The customs and courtesies of the service seem rigid and artificial to the outsider or to the neophyte. But to Army families who have lived with them they are marks of a society which believes in doing things properly.

The offspring of folk in the service are a credit to their way of life and their sires. They may be called Army Brats but they are a gay group, intelligent, courteous, confident, and at ease in even the most formal situations. Even at West Point, where literally all cadets are on the same footing, the Army Brats stand out.

But what of the soldier himself? Why shouldn't a soldier be military? Why should a military life be sniped at and portrayed to millions as the world of a Bilko or a Sad Sack? What's the matter with a Sir to your superiors, a salute on greeting, a standing at attention until told to be at ease, an unfawning deference to those who rank you? What's the matter with shining shoes better than civilians, with wearing sharp uniforms, with standing like a parade ground soldier with chest up and middle in? What's the matter with retreat parades, and close order drill, and cannons to announce retreat, and bugles to sound the calls? Why shouldn't the battalion commander sit at the head of the table in his mess with his officers about him in order of their rank?

Why do we lower our standards and substitute canned music for bugle calls or do away with them altogether? Why is a retreat parade so foreign to today's Army that men stumble all over themselves when they have to make a turn or pass in review practically at route step? Why is it difficult to turn a unit out all in the same uniform?

Worse still, why do we have to kowtow to the limitless number of people who have opinions on how the Army should be run?

Why do we go into all kinds of frantic flaps every time a Congressman sends a letter from one of his constituents demanding that a basic, well thought-out policy of the Army be changed to help a single mother's son buck the system or get a privilege forbidden the rest of the Army? Why do we apologize for those policies when we reply?

The military mind has been scorned, ridiculed, dissected, sought after (when the country is in trouble) and damned (when the country is at peace and taxes are high to maintain that peace). Yet is there such a thing as a military mind? If there is not, we've been taking a lot of abuse for nothing. If there is, we should define it and stick by it. Perhaps West Point's time-honored motto "Duty, Honor, Country" expresses part of it—its goal. The other part, the inner workings of the military mind, may be likened to a machine which can, in seeking a decision or solution to a problem, accept the facts, analyze the estimates, consider the courses, and then, by discarding the illogical and unreasonable and tempering the remainder with imagination, integrity and conscience, grind out the course of action which suits the objective.

What are the answers to all those questions? There's nothing wrong with being military. It's our way of life. And we should not let it be watered down by compromises to inferior, but popular ways of doing things and should not prostitute it for temporary, mealy-mouthed advantages which eat away at our military establishment.

Chin in! Chest up! Break out the bands! Shine up the sabers! Maintain the traditions. And, when they start shooting at the military way of doing things, ask them what war was ever won by a rabble.

Lieutenant Colonel Edward M. Flanagan, Jr., Artillery, *now on duty in the Pentagon, is an occasional contributor to this magazine.*

IMPROVED PROCEDURES FOR PENTOMIC DIVISION ARTILLERY

BETTER AND FASTER FIRE SUPPORT

LIEUTENANT COLONEL SALVO RIZZA

THE 101st Airborne Division artillery has been given some "shots in the arm" to help it meet the challenges of pentomic reorganization and overcome the few disadvantages of being "lean, mean and fast." Although only a fraction of the host of changes and improvements in techniques and equipment necessitated by the future's tremendous emphasis on dispersion, mobility, firepower and flexibility, these "shots" are significant steps toward determining the best overall atomic age artillery formula. In this article we consider these:

Survey control throughout the airhead in one hour.

Instantaneous fire direction and faster gun crew reaction.

Faster and more accurate observed fire procedures.

The firing elements of the artillery in the Pentomic airborne division consists of mortars, howitzers and rockets. Under normal circumstances the division artillery concept of employment in an airhead envisions great dispersion and frequent rapid movement—in large part because the demands that will be made on a battery will be many times greater than any we have previously known. This concept of massing, striking and dispersing at unprecedented speeds will require not only improvements in the areas mentioned above and treated in this article, but also in tactical mobility.

If artillery is to fulfill its mission on the atomic battlefield, changes are inevitable. The purpose of this article is to give a guiding hand to pentomic divisions not yet fully reorganized.

Lieutenant Colonel Salvo Rizza, *Artillery,* commands the 101st Airborne Division's Artillery. Well known among fellow members of his arm as an expert gunner, Colonel Rizza is the inventor of the Rizza fan, an aid used extensively in fire direction centers.

SIXTY-MINUTE SURVEY CONTROL

The extension of survey control throughout an airhead in an extremely limited time during the early phases of an airborne operation is one of division artillery's most difficult problems. To accomplish such a task in one hour requires revolutionary techniques and new equipment. The 101st Division Artillery has developed techniques which when used with the H-13H helicopter and the new M2 aiming circles will come close to attaining the objective. Other equipment now being developed such as (1) a simple lightweight instrument to measure distances to remarkable accuracy by radio waves or light pulses, this to eliminate the rather primitive taping procedure; and (2) a simple calculator to permit absolute and instantaneous solutions of the survey problems, will make such significant contributions to simplicity and speed that extension of survey control will become a simple matter. However, in the interim period and until such development is accomplished, equipment available is used.

The rapid survey procedures employed by the 101st Airborne Division Artillery and described below utilize the helicopter in conjunction with simultaneous sightings to establish point locations in the air. These locations then act as connecting links to permit survey control to be extended over relatively great distances in a minimum number of operations.

The methods for extending control by helicopter are divided into two groups: one extends control horizontally, vertically, and for direction, the other extends control horizontally and vertically only. Use of the latter group is preferred because the survey problem is simplified. It is therefore used at all times, when a condition exists to permit extension of common directional control by other than helicopter methods. The preferred method of extending common directional control throughout the airhead employs the principle of simultaneous astronomic observations using the sun, a star, or the moon. The sightings are normally coordinated by division artillery after true direction has been determined. With the M2 aiming circles true direction can be determined by a sun shot by division artillery or a battery instrument operator, whichever has the earliest opportunity. This entire operation is extremely simple, accurate, and expeditious.

The major items of relatively new equipment suggested for use in the Division Artillery of a ROTAD division include the following:

(1) Six M2 aiming circles in Headquarters Battery, Division Artillery, 3 or 4 for establishment of the control bases, and 2 or 3 for supplementary or follow-up extension of control using the normal procedures.

(2) Two M2 aiming circles for each battery survey team.

(3) One H-13H helicopter equipped with a sighting device which will assist the pilot to determine the extent of his lateral movement and thus hover in as motionless a state as possible. (Helicopters which do not have the capability to hover almost motionless will not permit achievement of the required degree of accuracy.)

(4) Radios, AN/PRC-9 or AN/VRC-9, for communication between the helicopter and all observation stations.

For all systems of extending survey control there are certain common elements. The establishment of a group of division artillery control bases is the keystone of all the systems. Normally the group consists of two or three bases *(Figure 1)* established and tied together on true or assumed control. Theoretically one base would be sufficient; however, to provide a system of independent checks on each helicopter location one or more additional bases are necessary. Because little time is consumed in sighting for each helicopter location and because a system of checks is necessary several sets of readings are made at each chopper point. Hence, those locations which do not check can be discarded.

Another part of all systems described below is the SOP used by division artillery to accomplish split-second simultaneous readings. This includes (1) a report of readiness by each station (battery and division artillery), (2) a count down controlled by a division artillery station, (3) a reading followed by a report of the quality of the reading. The last step is used to eliminate immediately any set of readings in which one instrument operator failed to obtain a precise reading. To prevent any confusion in computation of locations each set of simultaneous readings is assigned a number.

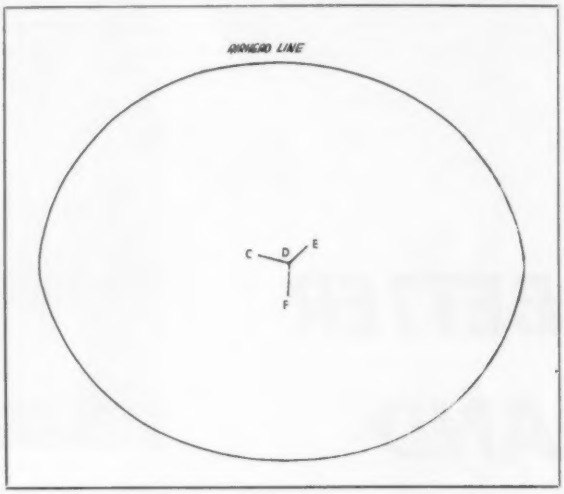


FIGURE 1

The helicopter methods of survey have the following advantages over conventional methods:

(1) Field work can be done on a simultaneous basis throughout the airhead. The battery becomes an equal, mutually assisting partner to Division Artillery in the extension of control. It no longer need await the arrival of Division Artillery in its area.

(2) Faster extension of control over longer distances.

(3) Field work is simplified.

(4) Night survey is expedited and simplified to an even greater degree than daylight survey.

(5) The system lends itself readily to a circular type airhead where control is to be extended to all parts of an airhead from an area near the center of the airhead.

(6) Survey teams are not required to move through terrain not wholly cleared of hostile groups. This is an important advantage in considering the new concept of widely dispersed units.

It is considered that these advantages far outweigh the disadvantages.

METHODS OF EXTENDING HORIZONTAL, VERTICAL AND DIRECTIONAL CONTROL

(To be used when coordinated directional control cannot be effected)

Simultaneous Triangulation to Establish Adjacent Quadrilaterals or to Establish Two Connecting Points

This system extends control through a chain of bases, *i.e.*, from control base(s) established by division artillery, to connecting base

established by helicopter, and then to an objective base established by each battery desiring control *(Figure 2)*.

M2 aiming circles are located at A, B, C, D, and E. X and Y are the two helicopter locations (links) which are established by simultaneous readings from all aiming circles to the top of the helicopter rotor shaft. Several sets of simultaneous readings are made in the

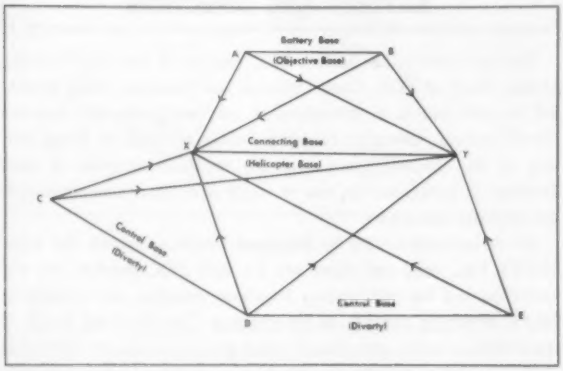


FIGURE 2

vicinity of X and Y in order that the most accurately located points can be used for the extension of control.

Areas in the vicinity of X and Y are selected by map inspection to insure satisfactory angles of intersection from battery and division artillery bases. For ease of finding the helicopter, an orienting direction can be given to each station in the same manner as an instrument reading is given in a high burst registration. By computation, using its instrument readings and known control data, the division artillery gives its most accurate set of coordinates for X and Y to the battery. With these coordinates and its instrument readings and length of base, the battery computes the coordinates of A and B.

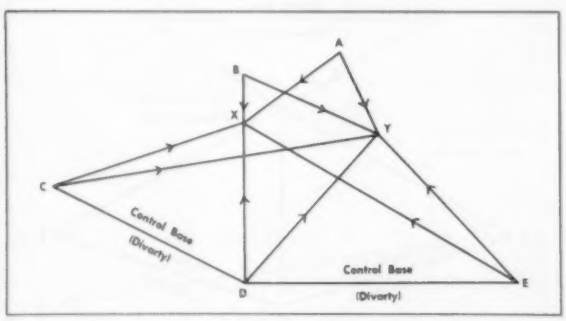


FIGURE 3

The above process is repeated for batteries as required throughout the division airhead. Visibility permitting, it can be accomplished during the night or day and it lends itself readily to a circular or elliptical type airhead.

Simultaneous Triangulation and Ground Resections From Two Points

This system is much simpler than the above because (1) no computation is required by the battery, and (2) the air points located by division artillery are in the vicinity of the battery. The battery, instead of establishing a base as in the first method, uses two M2 aiming circles to project the helicopter's horizontal location to the ground *(Figure 3)*. The projection is a ground two-point resection and is accomplished by each aiming circle operator plumbing the line of sight to the ground and then lining an aiming post so that it is placed at the intersection of the two lines of sight. Vertical control is determined by solution of the right triangle formed by one of the battery aiming circles, the helicopter, and the projected point *(Figure 4)*.

Division Artillery procedure in this method is identical to the first method. On the other hand the battery procedure eliminates the taping of a long base, and resection computations. For short distances this is a much faster method. However, it requires a cleared area below the chopper locations and has the possible disadvantage of giving away the battery, if locations are too close to the position area. In some instances a heavy weight may be used to project a helicopter location to the ground; however, this is not recommended when aiming circles are available.

Simultaneous Triangulation and Three Point Resection

Using this method a set of three helicopter locations must be determined by division artillery. The battery determines its control by

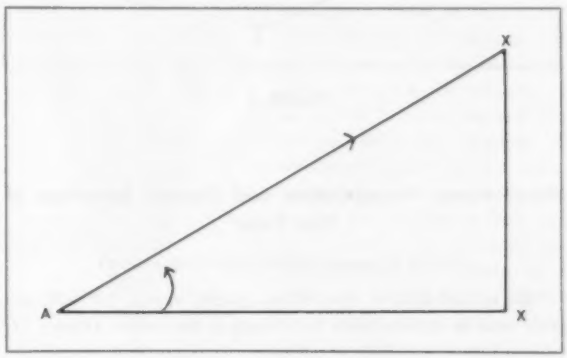


FIGURE 4

setting up one aiming circle, sighting on each helicopter location, determining the angles between helicopter locations, and then performing the computations for a three point resection *(Figure 5)*.

Basic principles for (1) determining areas for X, Y and Z to give satisfactory angles of intersection, (2) instrument orientation, (3) determination of vertical control, and for coordination of simultaneous readings are identical to those in the first method.

METHODS OF EXTENDING HORIZONTAL AND VERTICAL CONTROL ONLY

The methods explained below will be used when common directional control has been established. These are the preferred methods primarily because of the improved overall accuracy resulting from the accuracy of directional control. Secondary advantages of these methods include greater simplicity, and the greater speed that results from reduced field work and computations.

The basic principles and procedures as well as the equipment used in the methods below are identical to those in the above methods and therefore are not explained or listed in this section.

Simultaneous Triangulation to Establish One Connecting Point

(Similar to first method in previous section)

This method follows that of the adjacent quadrilaterals except that one connecting point is used in place of the connecting base (two connecting points). Common directional control eliminates the requirement for two connecting points *(Figure 6)*.

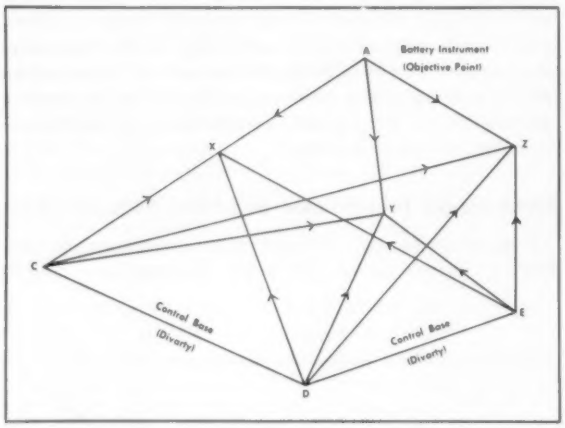


FIGURE 5

Simultaneous Triangulation and Ground Resection of One Point

(Similar to second method in previous section)

This method follows that of two points, except that only one point need be established in the vicinity of the battery *(Figure 7)*.

Simultaneous Triangulation and Two Point Resection

This method follows that of the three point resection above except that only two points are established between the battery and the division artillery bases *(Figure 8)*.

FIRE DIRECTION

The fire direction system used in the 101st Airborne Division Artillery is very similar to that initially developed with the Rizza Fan and later adopted by all the I Corps Artillery battalions in Korea in the spring of 1954. It emphasizes speed, simplicity, and efficiency, each of these having been achieved by elimination of repetition, duplication of effort, lost motion, necessity for check charts, and by maximum use of standing operating procedures to further reduce verbiage.

Further simplification of fire direction procedure results from the elimination of the battalion from the organization of the division artillery in the ROTAD division. This leaves only two fire direction echelons, the division artillery and the battery. The Division Artillery FDC functions in the same manner as the FDC of the standard division artillery. There are no firing data determined, and fire direction is accomplished through missions, directives, policies, issuance of firing instructions, and by ammunition control. This causes all other fire direction functions to be effected in the battery. In other words the firing batteries have assumed all the functions of a standard battalion FDC and battery FDC. These battery functions are explained below. Division Artillery FDC, because there is no change, is omitted.

BATTERY FIRE DIRECTION

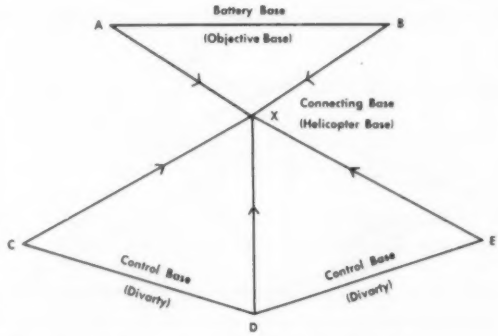
The personnel in the battery FDC consists of the Fire Direction Officer, Chief of FDC, Chart Operator, and Recorder. Other personnel not involved in determination of data but in the fire direction system include: Observer, Executive Officer or Chief of Firing Battery at the Executive post, and the telephone operator at each howitzer or mortar section, one of which is designated to accomplish the checking repeat-back.

Special equipment used by the above members includes the Rizza (GFT) Fan; head and chest sets for each FDC member, for the executive, and for each section telephone operator; and a bridging board, switching central, or switchboard. The bridging board is essentially a cordless switchboard which provides simplicity and speed in establishing or making changes in the conference systems desired. Other equipment used is normal to any fire direction center and will not be listed here.

Here are some of the interesting features of the fire direction system used in the 101st Airborne Division Artillery:

The check chart system with all its complicated procedures has been eliminated. The elimination of the battalion and its centralized control obviates any necessity for a check chart. Checking is accomplished by the fire direction officer, or the chief of fire direction center. This simplifies procedure. In addition modifications made to the issue Rizza Fan returning two features which were a part of the original fan also obviate requirement for a check chart. These include:

The permanent inscription of the tens graduations on the deflection



M2 aiming circles are located at A, B, C, D and E.
For complete explanation refer to first method above.

FIGURE 6

arc. This eliminates chart operator deflection errors, and speeds up his deflection reading. (100-mil graduations are marked with grease pencil as has been done in the past.)

Beveling of the Vee slot in the cursor. This permits the cursor to position itself at the point where the target pin enters the chart,

therefore eliminating inaccuracies resulting from any slant in the pin.

Maximum use has been made of standing operating procedures to speed up and simplify fire direction. The SOP emphasizes the elimination of commonly used elements in the fire direction system. This covers the observer's entire fire mission, the fire order, and the commands to the firing battery. This has reduced verbiage considerably, and improved the speed in fire directing.

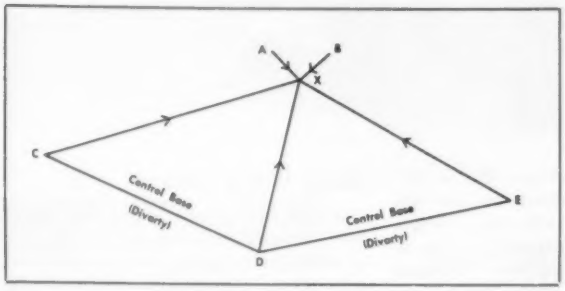


FIGURE 7

For all normal battery "will adjust" missions the site fired is the angle of site determined by a direct reading from the Rizza Fan. This practice eliminates all the time lag previously experienced in the determination of site. A "hurry up" type mission can now be fired as fast as the howitzer section can operate. True site is determined at the completion of the mission or for any massing mission.

Fire commands are given by a fire direction team member directly to the guns. The executive listens in at the executive post and exercises supervision as required through his capability to cut out any or all sections from the conference system.

Combining standing operating procedures with the simplicity of determining firing data and with direct commands to the guns makes fire direction almost an instantaneous process. Once the fire order begins there is no time lost in waiting for commands. The fire order is combined with the first few elements of commands and given simultaneously to the observer and executive; for example, "3 volleys for effect, Concentration AF110, Battery Adjust, Charge 5, Fuze Time." Repeat back is accomplished by the observer while the executive alerts the battery with "Battery Adjust, Charge 5, Fuze Time." All subsequent commands are from the FD Team direct to the firing battery and include a repeat of "Charge 5, Fuze Time" to insure accuracy. For these subsequent commands the conference system includes the observer, fire direction team, Executive Post, and howitzer sections.

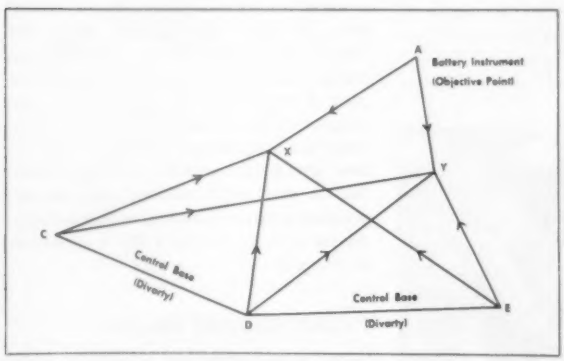


FIGURE 8

The battery fire direction officer makes the decision to fire and gives the fire order and initial commands.

The battery recorder formerly at the executive's post has been eliminated, his functions being absorbed by the FDC recorder.

The conference system has been found to be a great morale factor. Cannoneers now understand, follow, and feel like a part of the mission. The resulting esprit has improved gun crew efficiency.

Other specific details and special techniques of fire direction procedures are outlined in the 101st Airborne Division Artillery SOP and are not considered of sufficient general interest to be included here. It is recognized that the above fire direction procedure requires excellent communications discipline. However, if the transition to this system is accomplished gradually the change-over will not be difficult and excellent results can be expected.

A FASTER, MORE ACCURATE METHOD OF OBSERVED FIRE PROCEDURE

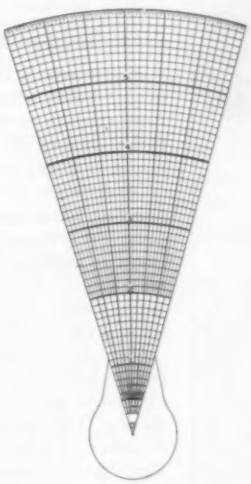


FIGURE 9

To what is now considered an extremely simple observed fire procedure, the 101st Airborne Division Artillery has developed and added a modification that achieves the ultimate in simplicity and speed while improving the accuracy of adjustment. In essence the modified technique takes full advantage of an observer's known location which when plotted on the firing chart permits him not only to locate targets by an azimuth and range, but also to make his adjustment by a correction combining an angular (mil) shift with a range change. The mil shift is measured directly with field glasses; therefore it is accurate and does not depend on an estimate factor such as the observer target distance. To follow such corrections the chart operator in the FDC uses a small fan with range arcs and radial lines *(Figure 9)*, or he may use the target grid "arrowed" line and rotate the grid according to the shift. The small fan is superior to the target grid because once it is oriented, rotation is not necessary and it does not interfere with the battery pin.

This new modified technique is preferred and used when it is possible to locate the observer, while the standard technique is secondary and used only when the observer cannot be located. The fire direction center is prepared to follow either method of adjustment. By SOP, when a shift in mils is desired, the observer must follow the shift correction with the word "mils", for example, Right 60 mils, Add 400.

From an analysis of past experience it is considered that the location of the observer will present no additional problem; in fact the occasions when an observer cannot be located will be rare. This is especially emphasized when one recognizes all the means by which an observer can be located through map, photo, or photomap inspection; resection using ground points, artillery ground bursts, air bursts, or helicopter; and survey.

Irons in the Fire

Versatile Forklift

The Army Quartermaster Corps has developed a new type of rough-terrain forklift truck that can handle military supplies over such terrain as beaches, snow fields and off-the-road open-storage areas. It also can move

Heavy-duty cargo handler

through surf and five feet of water to unload supplies from landing craft.

Equipped with both front and rear axle steering, the truck can move sideways on a 20-degree angle. The body and forks can be tilted right or left, independent of the axles, to allow pickup of loads at an angle or to carry them at an even level across a hillside.

The new truck has no conventional upright. Its forks are extensions of hydraulic-operated telescoping arms that reach out and up and down to pick up loads. The forks can be moved two feet on either side of center to lift off-center loads. The forks act as a built-in jack in case the front wheels get stuck. The driver can push the forks into the ground to lift the wheels free while the truck backs off.

The vehicle, which will reduce the manpower required to handle supplies where there are no landing docks or railroad sidings, has a top speed of 25 miles an hour in either forward or reverse.

New Air-Cooled Engines

The Army Corps of Engineers is purchasing the first of three sizes of a newly developed industrial type small air-cooled gasoline engine.

The new engine, which comes in a family of six sizes, ranging from ½ through 2 horsepower, has a high degree of interchangeable parts. It was developed to replace the 78 different sizes and types of such engines now in use or used in World War II. Designed especially for military use, the new standard engine family will have a longer operation life, with a maximum of 100 to 200 parts or assemblies required as compared with the 23,000 which it was necessary to stock to keep gasoline engines of this size going in World War II.

One thousand engines each of the ½, 1½, and 3 horsepower size are being manufactured at the Continental Motors Company in Detroit, Michigan, to determine whether they can be mass produced.

New Radiation Detectors

A new network of radiation detectors was used in tanks, balloons and underground by Army scientists at the recent Nevada atomic tests to measure the amount of radiation following an atomic explosion.

Developed at the U. S. Army Signal Engineering Laboratories, Fort Monmouth, New Jersey, the new equipment keeps a continuous record of radiation hazards in the test area after a blast. The information is stored in well-protected underground recorders until the area can be entered safely.

One type of spotter used is designed to pop up from the ground like a periscope to measure the radiation at various distances from the blast. The instrument is kept underground to protect it from the fierce atomic shock wave. A split second after detonation an automatic air gun jolts the detector into position. It remains above ground for hours to keep a running account of fall-out radiation.

Pop-up radiation counter

Radar Power Booster

A new electron tube, called the "amplitron," designed to perform the dual function of increasing the power in the nation's vital radar defense networks and generating basic radar waves has been developed by the U. S. Army Signal Engineering Laboratories and Raytheon Co. The new tube is capable of handling a power load equal to that needed to light a small community. It allows lighter radars for airliners, long-range storm spotters, electronic ovens, better guided missile systems, better gun-radars for jets, and sharper warning devices for submarines and surface ships.

The amplitron works on the same principles as the ordinary TV and radio tube but has a unique design that makes it twice as efficient as previous tubes. In addition, it can boost the energy output of a radar's basic signal by as much as eight to 14 times.

Ability of the new tube to respond to a wide range of signals makes possible rapid tuning to evade enemy jamming or interference.

All-Butyl Truck Tire

An all-synthetic heavy duty truck tire, with resulting independence from natural rubber imports, has been developed under Army Ordnance contract. The tire, made of butyl, a synthetic rubber created from oil refinery gases, has been perfected after three years' research by the Pennsylvania Tire Company, and the Esso Research and Engineering Company. The new tire is the size 9:00 x 20, most widely used type in the Army. Ordnance tests, under cross-country and highway conditions, have shown butyl tires to be at least equivalent or superior to military tires presently being manufactured. Savings will result from the fact that the new tires do not deteriorate in storage.

British Antitank Missile

The British Army has revealed the existence of a new antitank guided missile with a claimed accuracy which can be measured "not in yards or in feet but in inches." The new missile, not yet in service, was developed in Australia and is said to be somewhat on the order of our own Dart antitank missile. It is guided visually to its target with a remote control apparatus resembling a combination steering wheel and periscope.

NEWLY ADOPTED PACK

The new combat soldier's pack just adopted by the Army consists of a specially designed belt, H-type suspenders and easily detachable components. It is lighter than the present pack, better distributes the load on the soldier's back and allows for maximum freedom of movement while running, walking or crawling. At the left is the fifty-five-pound full pack for use under march conditions, with twenty-pound existence load of survival items, twenty-five-pound battle load of weapons and ammunition, and the ten-pound full-field load of sleeping bag, extra clothing and personal possessions. Pictured above is the stripped-down combat load.

Vacuum Furnace

Precise industrial engineering investigations on titanium, other reactive metals, and new guided missile materials now can be carried out at the General Thomas J. Rodman Laboratory at Watertown Arsenal, with the help of a new 500-pound capacity vacuum melting furnace built by the F. J. Stokes Corp.

The furnace is designed to produce metal of extremely high purity, free of slag inclusions and trapped and dissolved gases, by induction-melting a charge of ordinary metal and the desired alloying constituents within a high vacuum free of oxygen and other reactive gases present in a normal atmosphere, and refining this melt by pumping out any gases which may be contained within the raw stock. After purifying, the metal is poured from the crucible into small ingot molds while still under vacuum.

Republic Drone Contracts

The U. S. Army Signal Corps has awarded two contracts to the Republic Aviation Corporation for development and production of a new service test model aerial drone capable of operating in any kind of weather.

Republic's contracts call for two such systems, one for immediate operational use and the other an advanced, future type to be operated by the Army units in the battle area for surveillance, using techniques such as photography, radar or infra-red.

The contract for the drones to be immediately available totals $1,700,000 and calls for a rapid schedule of detail design and fabrication of initial service test units.

Radiation-safe Dozer Cab

Army Engineer Research and Development Laboratories have developed a unique bulldozer cab that protects the operator from radiation. Made of lead and weighing approximately 5,000 pounds, the new cab will allow Army Engineers to start early clean-up operations of radioactive areas created by a possible nuclear war.

The cab accommodates the operator, tractor controls, a radio and special radiation meters that record the amount of outside radioactivity. Lead glass windows on four sides provide the operator with good visibility and the cab is pressurized with fresh, filtered air. With a crane, three men can mount the cab on a tractor in thirty minutes.

HOT SPARKS

Hiller Helicopter's Army H-23D has recently completed a 1,000-hour accelerated ground endurance test. The H-23D was designed to meet Army requirement for a helicopter which could fly for 1,000 hours between major overhauls.

Bell Aircraft Corporation's new automatic landing system has been used successfully on a naval aircraft carrier. A combination of radio, radar and an electronic "brain," the system takes over from the pilot while the plane is still some distance from touchdown on an airport runway or a carrier deck and brings the plane in to a safe landing regardless of visibility.

The recent demonstration by the Navy and Grumman Aircraft of a British-developed low-level ejection seat marked a major step forward in safety for the pilots of high-performance military aircraft. The successful demonstration, at runway level, was of vital significance, considering that nearly two-thirds of all jet aircraft fatalities occur on either take-off or landing, when pilots, faced with a disabled plane, heretofore have had no alternative but to "ride her in."

After six years of experiments, scientists at the Naval Research Laboratory have come to the conclusion that the moon can be used as a radio relay station. Tests with varied frequencies have included round-trip voice transmissions and have indicated that many types of communications can be carried on via the moon. The experiments also resulted in data on the distance between the moon and the earth which differed from that obtained by optical observances. The scientists hope that further experiments will lead to a clarification of the distance data and more accurate information on the absolute sizes of earth and moon.

A new type of shotgun cleaner and oiler that works easily, neatly and thoroughly has recently been put on the market. It consists of a polished wooden handle and a tough straight-grained wooden rod 34 inches long. The rod is completely covered with a deep pile fabric made of Dynel, Union Carbide Corporation's durable acrylic fiber. It will fit either 12-, 16-, or 20-gauge guns in all standard barrel lengths, eliminating the need for different sets of gun cleaning equipment. When inserted into the gun barrel the Dynel deep pile fabric compresses.

A new "B" version of the C-130 Lockheed Hercules propjet cargo-troop carrier will provide more speed, more payload, more range, and greater utility. The new model will have more powerful engines, higher take-off weights, additional fuel tanks, stronger landing gear, four-bladed propellers and a larger flight crew compartment.

ASSOCIATION OF THE U. S. ARMY

Aims and Objectives

The Association of the U. S. Army shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its elements, branches, and components and providing for and assuring the Nation's military security.

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Membership

General Membership. General Membership in the Association shall be open to any individual who has been honorably discharged or retired from the Armed Forces of the United States, to members of the National Guard of the United States not on active duty, to members of the United States Army Reserve not on active duty, and to such persons as have held appointive office in the Department of the Army.

Service Membership. Service Membership in the Association shall be open to all active-duty members of the Army of the United States.

Cadet Membership. Cadet membership in the Association shall be open to the cadets of the United States Military Academy and to all current enrollees in Junior, Military Schools, and Senior Divisions of the Army ROTC Program, including those units provided for by Section 55c of the National Defense Act as amended.

Associate Membership. Associate Membership shall be open to active-duty personnel of the other services, to civilian employees of the Department of the Army not qualified for General Membership, and to any individual who supports the objectives of the Association and who meets such requirements as may be promulgated in regulations passed by the Council of Trustees.

Sustaining Membership. Sustaining membership shall be open to such industrial, commercial, business, professional, technical and veteran firms, corporations, organizations or societies that wish to support the aims and purposes of the Association, subject to specific approval by the Council of Trustees.

REPORT FROM YOUR AUSA CP

Units and organizations continue to increase their membership in the Association. One hundred per cent of the officers of Headquarters 3d U. S. Army Missile Command, Fort Bragg, are now members. This is true also of the 95th AAA Battalion at Mannheim, Germany. But the 110th Military Police Platoon at Headquarters, VII Corps, goes all others one better by having a 100 per cent membership of *all* personnel in the unit. Competing is Headquarters and Headquarters Battery of the VII Corps Artillery which added twenty-three members in August to its list of Association members. These continuous efforts by those organizations are much appreciated.

The Association now has two certificates for presentation to deserving individuals. One is the Certificate of Appreciation and the other is the Certificate of Achievement. Recommendations for their award will be received at National Headquarters for submission to the Awards Committee which will recommend to the Council of Trustees whether or not an award of the appropriate Certificate will be made.

The General John J. Pershing Chapter at Fort Jay, N. Y., and the Brooklyn Chapter also of N. Y., have passed resolutions to merge with the New York Chapter so as to form a stronger and more influential organization in the New York area. This action was approved by the Council of Trustees on 28 August. More aggressive chapter activity in this area is expected to result.

In addition to the above action, the Council of Trustees at their Regular Meeting on 28 August:

Approved charters for the Westchester County, Ozark, and Greater Los Angeles Chapters and for the "Ole Miss" Company, ROTC, University of Mississippi.

Approved the application of four more Sustaining Members.

Approved the design for a bronze plaque to be presented to the Tomb of the Unknown Soldier in Arlington Cemetery at the appropriate ceremony to be conducted in conjunction with the Annual Meeting, 28-30 October.

Authorized the formation of two new committees, the USAR Committee and the National Guard Committee.

Appointed a Nominating Committee to recommend nominees for vacancies occurring in June, 1958.

Appointed a committee of General Ridgway, Mr. Belding and General Baker to draft specific objectives to be emphasized in all Association efforts and activities; action to be taken by the Council so that these objectives can be announced at the Annual Meeting.

Resolutions from chapters, management problems and other items also received the attention and consideration of the Council.

Since our last issue, Mr. Howard Petersen of the Fidelity-Philadelphia Trust Co. of Philadelphia, and Lt. Col. Jack Warner, Jr. of Warner Brothers Studios in Burbank, Dr. Henry Kissinger of Harvard University, Sherrod E. Skinner, GMC, Detroit, and William S. Paley, President and Chairman of the Board of the Columbia Broadcasting System, have accepted invitations to become members of our Advisory Board of Directors.

This will be the last issue of *ARMY* you will receive before our Annual Meeting. You will see from the spread on pages 1-3 that we have arranged an outstanding meeting. It is expected that 2,000 members of AUSA will register. The Annual Meeting culminates a year of unusual progress in Association affairs. In a report to the membership by the President, the highlights of our progress during the past twelve months will be reviewed. This report and other highlights of the Meeting will be published in the December issue of *ARMY*, for those who cannot be present. We hope to see you at the Meeting!

WALTER L. WEIBLE
Lt. Gen., USA, Retd.
Executive Vice President

AUSA REGIONAL ACTIVITIES

CHAPTERS

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SEATTLE, WASH. Joseph A. Sweeney, First Vice President; Arthur T. Lee, President; and Col. Roger W. Goldsmith, Chief, USA Military District, Washington, examine the Charter of Seattle Chapter at its organizational meeting. Mr. Sweeney had served as chairman pro tem of the pre-organization group.

Col. Joseph Triner; *Secretary:* Col. Jules V. Houghtaling, USAR-Rtd.; *Treasurer:* Lt. Col. O. C. Tyler, USAR; *Asst. Secretary:* Lt. Col. Herbert Moselle, USAR.

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Chapter observed Nike firing at McGregor Range at invitation of Maj. Gen. Sam C. Russell, CG, USA Air Defense Center, 24 August.

FORT DEVENS CHAPTER—*Treasurer:* Major Margot Reis, 1170th SU, Fort Devens, Mass.; *President:* Col. Fred L. Walker; *First Vice President:* Lt. Col. Robert C. Harris; *Second Vice President:* Maj. Glenn N. Mayo; *Secretary:* Capt. R. S. Moriarty.

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Geographic area: The Chapter shall be limited in geographical coverage to a rectangular area in Missouri, bounded on the north by an east-west line through northern limits of Columbia, on the west by a north-south line through western limits of Springfield, on the south by the Arkansas-Missouri state line, and on the east by a north-south line through the easternmost limits of Sullivan.

FORT RILEY-CENTRAL KANSAS CHAPTER—Room 114, Patton Hall, Fort Riley, Kansas. *President:* Mr. John D. Montgomery; *First Vice President:* Mr. Ralph Wareham; *Second Vice President:* Mr. Charles S. Arthur; *Executive Secretary:* Mr. Blair D. Adam; *Treasurer:* Mr. Ed J. Rolfs, Jr.; *Recording Secretary:* MSgt George E. Bales.

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CAMP McCOY, WIS. Maj. Gen. L. J. Sverdrup, CG, 102 Infantry Division, and Vice President, AUSA, presents the Charter to Fred Rahr, President of the Camp McCoy-Red Cloud Chapter at ceremonies at Camp McCoy on 17 August. *Left to right:* Robert Ninneman, Secretary; Gen. Sverdrup; Mr. Rahr; John Kaehler, Second Vice President; William Kellar, member.

GREATER LOS ANGELES CHAPTER—*Secretary:* 1st Lt. Doris M. Schmerling, CO, Wac Det., Fort MacArthur, Calif. *President:* Mr. Robert C. Geffs; *First Vice President:* Col. Josep H. Pengilly, USAR-Rtd.; *Second Vice President:* Lt. Col. Jack Warner, USAR; *Treasurer:* Maj. Gen. A. J. Maxham, NGUS.

Geographic area: Metropolitan area of Los Angeles, Calif.

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HEADQUARTERS SEVENTH U. S. ARMY CHAPTER—*Second Vice President:* Lt. Col. William O. Quirey, Hq Seventh U. S. Army, APO 46, New York, N. Y. *Honorary President:* Lt. Gen. Bruce C. Clarke; *President:* Maj. Gen. John C. Oakes; *First Vice President:* Col. Robert H. Cole; *Secretary:* Major Thomas A. Gandy, Jr.; *Treasurer:* Major Andrew C. Anderson.

Charter presented by Hon. Wilber M. Brucker, Secretary of the Army, 2 August.

HEIDELBERG CHAPTER—*Secretary:* Capt. A. L. Shoaff, Hq USAREUR, APO 403, New York, New York. *President:* Major Gen. G. E. Martin; *First Vice President:* Col. K. E. Adamson; *Second Vice President:* Col. S. E. Otto; *Treasurer:* Major W. H. Brandenburg.

Maj. Gen. Hugh P. Harris addressed audience of 400, including military and civilians, at dinner meeting on 6 August. All reports indicate meeting was huge success and generated terrific interest in AUSA and Heidelberg Chapter.

HENRY LEAVENWORTH CHAPTER—*Secretary:* Maj. John H. Cushman, Fort Leavenworth, Kans. *President:* Lt. Col. Harold A. Purdy, USAR; *First Vice President:* Mr. John W. Breidenthal; *Second Vice President:* Col. John H. Hay; *Treasurer:* Mr. George H. Ryan.

Luncheon meeting featured simulated firing of Small Fry rocket missile; narration and slides on missiles by Maj. Nels A. Parson, Jr., missile expert and author.

President Purdy wrote to all members of Congress from Leavenworth area to balance need for economy with requirements of Army strong enough to perform its functions; stressed businessman membership of Chapter and expressed their desire to keep national defense balanced and capable of performing its missions. Letter ended: "We ask that you ask yourself the question: Can the United States afford to protect itself? We are convinced not only that it can afford to survive—that it *must* afford to survive."

Chapter also donated $1,029.10 to Red Cross tornado relief fund.

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Charter presented 17 August by Maj. Gen. L. J. Sverdrup, Vice President of AUSA, and CG 102d Infantry Division, then in training at Camp McCoy. Chapter named for Cpl. Mitchell Red Cloud, Medal of Honor winner, killed in Korea.

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Living up to its reputation as one of AUSA's most enthusiastic chapters, Pikes Peak's barbecue on 26 July at Fort Carson was an outstanding event. Retreat review by the 39th Infantry, regimental chorus competition decided by vote of those attending the barbecue, the barbecue itself, and a *short* business meeting guaranteed a full and interesting afternoon for more than 500 civilian guests.

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FORT GEORGE G. MEADE, MD. Lt. Gen. Walter L. Weible, USA, Rtd., AUSA Executive Vice President, addresses ROTC from 38 colleges and universities at the end of their six-week training camp. Col. Martin L. Green, Fort Meade CO (front row, left), Maj. Gen. J. R. Pierce, Deputy CG, Second Army (front row, second from left), and other officers listen.

Hays; *Second Vice President:* Mr. Albert J. Carter; *Treasurer:* Mr. J. R. Monk, Jr.

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Election of officers 14 June brought into office slate above.

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CITADEL COMPANY, The Citadel, Charleston, S. C.—*Captain:* Cadet Edwin C. King; *First Lieutenant:* Cadet Terry D. Cordell; *Second Lieutenant:* Cadet Charles M. Watson, Jr.; *First Sergeant:* Cadet Jimmie E. Jones, Jr.

CLARKSON COMPANY, Clarkson College of Technology, Potsdam, New York—*Captain:* Cadet Donald Broadhurst; *First Lieutenant:* Cadet Robert F. Koenig; *Second Lieutenant:* Cadet Charles Fish; *First Sergeant:* Cadet Sigmund Mierzwa.

DAKOTA COMPANY, North Dakota Agricultural College, Fargo, N. D.—*Captain:* Cadet Arnold Ellingson; *First Lieutenant:* Cadet Neal R. Bjornson; *Second Lieutenant:* Cadet Melvin G. Werth; *Social Chairman:* Cadet Curtis L. Stromstad; *First Sergeant:* Cadet W. Dale Ruff.

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EDMUND R. WALKER COMPANY, University of Connecticut, Storrs, Conn.—*Captain:* Cadet Francis E. Dion, Jr.; *First Lieutenant:* Cadet Liudas Bajorinas; *Second Lieutenant:* Cadet Howard M. Belinsky; *First Sergeant:* Cadet Edward H. Soderberg.

ILLINI COMPANY, University of Illinois, Champaign, Illinois—*Captain:* Cadet Armand Ferrini; *First Lieutenant:* Cadet Kenneth Weber; *Second Lieutenant:* Cadet Charles W. Thompson; *First Sergeant:* Cadet Ray L. Allison.

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LOYOLA COLLEGE COMPANY, Loyola College, Baltimore 10, Md.—*Captain:* Cadet T. McHugh; *First Lieutenant:* Cadet K. Lee; *Second Lieutenant:* Cadet J. Murphy; *First Sergeant:* Cadet L. Romeo.

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THE MONTANA STATE UNIVERSITY ARMY ROTC COMPANY, Montana State University, Missoula, Montana—*Captain:* Cadet Ronald W.

Lundquist; *First Lieutenant:* Cadet Donald E. Ochs; *Second Lieutenant:* Cadet William P. Erhard; *First Sergeant:* Cadet Otto A. Bessey.

NEW YORK UNIVERSITY HEIGHTS COMPANY, New York University, New York, N. Y.—*Captain:* Cadet Dennis C. Howley; *First Lieutenant:* Cadet Michael Katos; *Second Lieutenant:* Cadet Frank Stein; *First Sergeant:* Cadet Ronald DiStefano.

"OLE MISS" COMPANY, The University of Mississippi, University, Mississippi—*Captain:* Cadet Monroe Pointer; *First Lieutenant:* Cadet Robert M. Williams, Jr.; *Second Lieutenant:* Cadet Kent E. Lovelace; *First Sergeant:* Cadet Lowell O. Winston, Jr.

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ST. NORBERT COLLEGE COMPANY, St. Norbert College, West de Pere, Wisconsin—*Captain:* Cadet John T. Wilting; *First Lieutenant:* Cadet Raphael J. Hallada; *Second Lieutenant:* Cadet Robert E. Jossart; *First Sergeant:* Cadet James J. Reilley.

SIENA ROTC COMPANY, St. Bernardine of Siena College, Loudonville, New York—*Captain:* Cadet Paul R. Riley, Jr.; *First Lieutenant:* Cadet John W. Stahlman; *Second Lieutenant:* Cadet Louis R. La Gasse; *First Sergeant:* Cadet J. Vincent Chesterfield.

TEXAS CHRISTIAN UNIVERSITY COMPANY, Texas Christian University, Fort Worth 9, Texas—*Captain:* Cadet Larry Lands; *First Lieutenant:* Cadet Frank Hyde; *Second Lieutenant:* Cadet Kenneth Howard; *First Sergeant:* Cadet Jimmy Lindsey; *Sergeants:* Cadets Ronnie Coleman, George Depee, Joe Dulle and Robert Fleming.

TEXAS TECH COMPANY, Texas Technological College, Lubbock, Texas

UNIVERSITY OF DETROIT CAVALIER COMPANY, University of Detroit, Detroit 21, Michigan—*Captain:* Cadet Daniel Potter; *First Lieutenant:* Cadet James Murphy; *Second Lieutenant:* Cadet Ronald Felice; *First Sergeant:* Cadet Michael J. Wells.

UNIVERSITY OF IDAHO COMPANY, University of Idaho, Moscow, Idaho—*Captain:* Cadet Curtis E. Anderson, Jr.; *First Lieutenant:* Cadet Warren G. Hawley; *Second Lieutenant:* Cadet Gary G. Sturman; *First Sergeant:* Cadet Larry P. McDonald.

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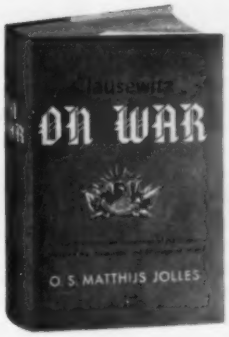
WEST TEXAS STATE COMPANY, West Texas State College, Canyon, Tex.—*Captain:* Cadet John C. Middleton; *First Lieutenant:* Cadet William G. Plummer; *Second Lieutenant:* Cadet James G. Coleman; *First Sergeant:* Cadet Gene E. Glazener.

Clausewitz . . .



ON WAR

TRANSLATED BY
O. S. MATTHIJS JOLLES

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THE MONTH'S BOOKS

Men Against a Mountain

THE BATTLE OF CASSINO
By Fred Majdalany
Houghton Mifflin Company, 1957
309 Pages; Index; $4.00

Reviewed by
CHESTER G. STARR, *who was Chief, Historical Section, Fifth Army, 1944-45, and is now Professor of History at the University of Illinois.*

The Battle of Cassino is on a small scale typical of the whole Italian campaign. It committed companies and battalions to frontal assaults on a narrow front up rocky hills, precisely in the manner in which Allied divisions and armies battled their way up the mountains of the narrow peninsula. It took place with little premeditation, and most of the attacks were launched with far too limited reserves and supplies. And finally the Battle of Cassino should perhaps never have taken place—just as many students of World War II feel that the Italian campaign itself was a mistake. There can be little doubt that Cassino deserves a book to itself.

In narrating the successive Allied attacks on or about Cassino from 17 January to 18 May 1944, the author writes absorbingly. He is skillful at conveying to the uninitiated the quality of modern battle, and he has a clear eye to the tactical problems that a soldier might raise (one can only wish he had been much more liberal with maps). Majdalany appreciates to a marked degree the psychological moods of the soldier; particularly notable are his pen portraits of the great Abbey looming down like an animate foe in the gray winter on the desperate Allied infantry below, or again of the heightening tension of the New Zealanders waiting day after day, for twenty-one successive days, for the order to launch an attack. No one can ever re-create in words the utter exhaustion of men who nevertheless plodded on and on through the endless mud or crawled up rock-strewn slopes, and Majdalany wisely spares us purple rhetoric; but anyone who was there will catch the ring of authenticity in the battle vignettes. Majdalany himself served as an infantry officer at Cassino.

The battle is also firmly set within its strategic frame. The author shows well the interconnections of the first and second attacks with the Anzio operation, which led to their being launched hastily, in part by tired troops, in the middle of winter so that tactical mobility was extremely limited. ("Do try to explain to me," asked the exasperated Churchill from afar, "why no flanking movements can be made.") The personal relationships of generals and national blocs within Eighth and Fifth Armies also affected the course of action; for generals as well as privates were subject to psychological exhaustion. One product of such frustration was the bombing of the Abbey on 15 February; Majdalany presents both the Allied and the enemy side on this much debated matter, and has no doubts that the bombing was necessary.

An American reader must wince at times at the display of British pride on minor points. A few examples may suffice: The maintenance of the Salerno beachhead is ascribed to Admiral Cunningham's "bold decision to send the battleships *Warspite* and *Valiant* dangerously close inshore." Monte Camino consumed more than 200,000 shells, "which caused the Americans to name the mountain Million Dollar Hill" (a name which I, for one, do not remember as commonly used!). Or again, while Majdalany gives the 34th Division generous credit for breaking into the hills behind Cassino, he considers the Rapido attack "badly mishandled by the Command and Staff of the 36th Division," and sprinkles criticisms of American command patterns and intelligence reports through his pages. Yet in dealing with the New Zealanders, whom he praises in fulsome terms, he simply notes the crucial failure to send in additional infantry promptly on 15 March but gives no critical judgment.

On personalities, as well, a British tone prevails. Montgomery is praised, and it must be said Majdalany comes as close as anyone I have read to explaining why he was idolized. Alexander is commended. The German commanders come off well—and, incidentally, one might wish for more of the German side. Among the Americans, however, Lucas is brutally treated, and Clark is repeatedly reproved on the grounds of his craving for publicity, his suspicion of British subordinates, and his detour of the final Anzio attack toward Rome. General Lucian K. Truscott, on the other hand, gets a very good press, in part because his *Command Missions* offers telling paragraphs against General Clark's decisions.

One must, after all, permit national prejudices, but the general conceptual frame of *The Battle of Cassino* is much more open to argument. Madjalany accepts completely the British point of view on the strategy of the Mediterranean Theater and argues once more that (1) the Italian campaign should have been given greater support as offering an avenue to Central Europe; (2) the Allied forces in Italy should not have been reduced for the invasion of Southern France in the summer of 1944. It is not, however, part of this creed that the Anzio attack must be accepted as a strategic masterpiece, and Majdalany is bluntly critical of Churchill's part in launching that operation. For the rest, however, "Washington" is to blame for the missing of the opportunities offered in Italy. The possibility that we should never have gone into Italy is not discussed, though Majdalany repeats Alexander's doleful comment that almost every day he had to ask himself who was containing whom, German or Allied forces.

Within this frame, accordingly, Majdalany must put Cassino as the focus of the whole Italian campaign. "Everything that happened before Cassino was a prelude to it: Cassino was the climax: everything that happened afterwards was anticlimax." Only if one is to halt with the capture of Rome, as the author does, can this statement be true; and what then of the battle in the Gothic Line or the beautifully planned and superbly executed drive across the Po Valley in 1945? Even in treating the attack through the Gustav Line, in May 1944, Majdalany must distort the picture to make Cassino the key, although by then Cassino was really a very minor point. It is, I think, significant that Majdalany never pauses to ask himself whether the Battle of Cassino was truly necessary—or merely an inevitable result of strategic mistakes.

Yet, when all is said and done, Cassino certainly did turn out to be a point at which much of the Italian campaign focused itself; the artistic unity which Majdalany imposes upon his material does not entirely distort reality. And the battle was preeminently one fought hand to hand by infantry. On the afternoon of 15 March 1944, 500 bombers, 600 guns, 400 tanks stood committed or ready at Cassino, but the lack of just one infantry battalion was the decisive turn-

ing point in the Allied failure to drive through the town. "Destruction alone is not enough," says Majdalany of the great bombing that day. "Men must eventually settle the issue with men."

The Big Three

CHURCHILL-ROOSEVELT-STALIN: The War They Waged and the Peace They Sought
By Herbert Feis
Princeton University Press, 1957
692 Pages $6.95

Reviewed by
FORREST C. POGUE, *Director of the George C. Marshall Research Center.*

Of the Big Three described in this book only Churchill remains alive, but their triumphs and failures still mark our lives. Mr. Feis, author of *The Spanish Story, The Road to Pearl Harbor, The China Tangle,* and other excellent volumes on international affairs, has presented graphically the history of the coalition which crushed the Axis but failed to create the conditions needed for peace. He has ably summarized previously published material from the official histories and numerous memoirs, plus new material from Mr. Truman, Mr. Harriman and others, and has subjected it to a penetrating re-evaluation. The reader who lacks time to read a number of books on the strategy of the war will find a brilliant synthesis in this book in addition to many provocative questions to ponder.

Mr. Feis, although often critical of the leaders of the coalition, is no "revisionist." He obviously believes that the aggression of Germany, Italy and Japan, and not that of the Soviet Union, constituted the real and present danger to the West in the 1939-45 period. And he gives little comfort to those who argue that we should have made our chief effort in the Pacific, while allowing Germany and the USSR to fight to a standstill in Europe. While agreeing that such a policy might have found the Red forces weakened in Europe and the Americans stronger in the Pacific at the war's end, he notes the possibility that the Germans could have used the respite to attack Britain with rockets and guided missiles and so extended her power that we would have had to use the first atomic bombs on European targets. "Hitler," he declares, "might have brought France more completely under his control, and perhaps have been able to devote enough strength to the Middle Eastern battle to defeat the British there. The Nazis would have remained dominant longer in Western Europe, breaking down more thoroughly the stamina and health of the people under their rule, and smashing their political institutions. These conquered people might have thought us indifferent and more of them than did might have come to regard the Soviet Union as their own great liberating friend. This is in itself, I think, the basic political justification for our strategy."

And what of the three leaders and their aims? Churchill, out of the desperation born of the days when Britain stood alone against the Nazis, said when the German armies invaded Russia, "If Hitler invaded Hell I would make at least a favourable reference to the Devil in the House of Commons." When it shifted aid from Mihailovich to Tito in Yugoslavia, he stated, "What interests us is, which of them is doing the most harm to the Germans." As the Axis armies reeled and the Soviet forces pushed westward, Churchill revived his distrust of Britain's ancient antagonist in the Middle East and the eastern Mediterranean. Earlier concessions in the Baltic and Balkans areas made it difficult for him to assume a strong moral position against Stalin at the war's end, just as his initial cries for vengeance against the Nazi "monsters" and Fascist "jackals" made it impossible for him to make an effective plea for tolerance toward the beaten.

Roosevelt in the years before Pearl Harbor had stirred many of his fellow Americans to strong moral indignation against the depredations of Japan, Italy and Germany. An armed Soviet Union seemed a natural ally against these disturbers of world order. Later, when British and U. S. forces benefited from Soviet sacrifices on the Eastern Front and when they coordinated their attacks with ours against the German forces, it was difficult to brand the "freedom fighters" as "totalitarian aggressors."

To Feis, Roosevelt's views on strategy and peace aims seem contradictory. Several factors may have helped make for this confusion: (1) a reluctance, born of his long experience with American isolationism, to accept a post-war role for American troops abroad for long periods after the war; (2) an unwillingness to aid in reviving or strengthening the colonial role of Britain and France; (3) an acute awareness of strong American demands for a speedy settlement with Japan; (4) a belief that he could reach satisfactory accords with Stalin around a final peace table; and (5) a conviction that a proper postwar peace organization would require the willing participation of the Soviet Union.

Stalin, who had seen his homeland suffer savagely at the hands of the enemy forces, allowed no pleas for moderation to sway him from his purposes. Initially, he used insults and veiled threats of a deal with the Axis to spur his allies to greater efforts. Later, he capitalized on Western bitterness against the common foe to get concessions. At Teheran and Yalta, he played on the American desire for aid against Japan to get commitments in the Far East. Perhaps his main interest was a desire to make Europe safe for communism, but he also had a very real desire to secure his borders against possible German or Japanese recovery and also an inherited aim, handed down faithfully since the days of the princes of Kiev and Muscovy, to expand the frontiers of Mother Russia.

The coalition held together so long as there was need of close cooperation to defeat the Axis. But as the enemy's resistance dwindled, the bonds of the alliance loosened. Then each partner sought his own interest. Churchill, desiring as much as possible to restore Britain's former position, worked for the re-establishment of the balance of power in Europe. Roosevelt desired the apprehension and punishment of disturbers of world order and the organization of a world police force which would keep peace in the future. Stalin saw peace for the Soviet Union in the spread of communist ideology and Soviet force into Central Europe and into the Far East. At least some of these aims threatened individual national interests and world order. As Mr. Feis brings his book to an end, shortly after Roosevelt's death and on the eve of Potsdam, the alliance shows signs that it cannot survive the vicissitudes of victory.

Mr. Feis summarizes the situation forcefully thus: "Roosevelt and his colleagues were right: the nations needed moral law and freedom. Churchill was right: the nations needed magnanimity and balance of power. Stalin was sullying a right: the Russian people were entitled to the fullest equality and protection against another assault upon them. But under Stalin they were trying not only to extend their boundaries and their control over neighboring states but also beginning to revert to their revolutionary effort throughout the world. Within the next few years this was to break the coalition and, along with the spread of nationalist passion in hitherto passive parts of the world, create the turbulence in which we are all now living."

Proper Nazi Bureaucrat

THE LABYRINTH: Memoirs of Walter Schellenberg
Translated from the German by Louis Hagan
Harper & Brothers, 1957
423 Pages; Illustrated; $4.95

Reviewed by
N. J. ANTHONY, *an Associate Editor of* ARMY.

In his foreword to *The Labyrinth,* Alan Bullock, keen student of Nazi Germany and biographer of Hitler, says that when Walter Schellenberg died in Italy in 1952 he left the manuscript of this amazing book, in the writing of which he was helped by a German journalist. If we can believe Schellenberg, it is an important document.

Selected Check List of the Month's Books

This run-down of some of the books received for review during the month preceding our deadline is to give our readers who like to follow current literature a monthly check list of the most important, useful and potentially popular books. Full reviews of some of these books will appear in this or subsequent issues. Any of these titles may be purchased through the Combat Forces Book Service. See page 72 for order coupon and a complete listing of Selected Books for Military Readers.

BRITISH MILITARY ADMINISTRATION IN THE FAR EAST: History of the Second World War. By F. S. V. Donnison. British Information Services, 1956. 483 Pages; Index; Maps; $7.46. Military government and military aid to the civil power are subjects not calculated to take the reader along with breathless interest, but this is a competent volume that explains clearly the problems in these fields, both at the beginning and at the end of World War II.

THE DEFENSE OF THE UNITED KINGDOM: History of the Second World War. By Basil Collier. British Information Services, 1957. 577 Pages; Index; Maps; $9.29. A well-documented, dispassionate and pedestrian official account of the measures taken to defend the UK during World War II. Our own AA and Air people may feel neglected because of the few references to our contributions.

DRIVE. By Col. Charles R. Codman. Little, Brown & Company, 1957. 335 Pages; Index; Illustrated; $5.00. Based on letters General Patton's aide wrote his wife during World War II, this is another book valuable mainly for its assessment and description of Patton. Not particularly helpful for military historians, and possibly irritating in its emphasis on fine wines, important (non-military) people, and lavish quarters.

GUIDED WEAPONS. By Eric Burgess. The Macmillan Company, 1957. 255 Pages; Illustrated; $5.00. A British expert on rockets and interplanetary flight offers another survey of this book-glutted field, but very able, in a short text to discuss production problems and the economics of defense along with his non-technical descriptions of the weapons. Not light reading; fact-filled.

THE GUN DIGEST. Edited by John T. Amber. Gun Digest Company, 1958. 320 Pages; Illustrated; $2.95. Each year we pay our respects to this compilation; we have run out of words. The twelfth edition of a standard work; bigger and more profusely illustrated than ever.

HOW THE MERRIMAC WON. By R. W. Daly. Thomas Y. Crowell Company, 1957. 211 Pages; Map; Index; $4.00. The author's thesis is that the *Monitor* won a tactical victory while the *Merrimac* (CSS *Virginia)* won a strategic victory that may have delayed the end of the Civil War by three years. Worden saved the *Minnesota* but did not sink the *Merrimac;* saving the *Minnesota* was his mission. By denying the James to McClellan, the *Merrimac's* strategic victory is proved—says Professor Daly of the Naval Academy. This one is certain to be controversial.

THE ISLAND CAMPAIGNS: Australia in the War of 1939-1945. By Allan S. Walker. Angus & Robertson, 1957. 426 Pages; Illustrated; Maps. No price given. The Australian Army Medical Service's history from 1942 to the end of the war indicates that the Australians had the same problems, and almost the same solutions, as our own medics. For specialists only.

THE SEA WAR IN KOREA. By Comdr. Frank A. Manson and Comdr. Malcolm W. Cagle. U. S. Naval Institute, 1957. A professional blend of Big Picture and small-unit material, complete with lessons learned and implications for the future—and intensely readable. Admiral Burke says in the foreword: "A limited war is the type of war most likely to occur in the thermonuclear age." Here are detailed some of the frustrations of keeping a limited war limited.

YOU'RE STEPPING ON MY CLOAK AND DAGGER. By Roger Hall. W. W. Norton & Company, 1957. 219 Pages; $3.75. For once, a humorous account of World War II experiences (in the OSS, this time) that is neither bitter nor condescending. Lieut. Hall was an infantryman when he volunteered for OSS and became parachute-qualified at Benning while assigned to OSS. Light, hardly a book that will be on school reading lists, but readable and informative.

Schellenberg headed the Foreign Intelligence Service of Heydrich's Main Security Office. He gives a revealing picture of Nazi officialdom, where everyone spied on and betrayed anyone he could. Schellenberg survived mainly because he enjoyed the complete confidence of Himmler. He was also close to Hitler, who charged him with screwball missions. On one he was to offer the Duke of Windsor fifty million Swiss francs to denounce the British royal family and settle in a neutral country, and to kidnap him if he refused. Another assignment was the assassination of Otto Strasser. Schellenberg didn't try very hard to accomplish either mission.

The most important part of the book is what amounts to a textbook on espionage techniques. Schellenberg tells how he organized his agents, how they operated, and how he trapped those of the enemy. There are accounts of double agents and others who gladly turned coat when captured. Schellenberg's organization broadcasted coded messages and intercepted those of the enemy, and he says he even tapped a telephone conversation between Roosevelt and Churchill.

Other aspects of his operations were more colorful, like Heydrich's private bordello for foreign diplomats, each room equipped with microphones connected to recording machines. There are the accounts of Japanese gifts of money and technical equipment to the Polish Underground, and of Operation Cicero, that project so fantastic it merited the inevitable movie by Hollywood. To complete the Hollywood touch, Schellenberg describes his desk which concealed two machine guns that could spray any part of his office, and a pushbutton that set off a siren to summon guards from outside the building in a matter of seconds.

But Schellenberg, while a coldly efficient bureaucrat, was somewhat lacking in realism. Like Hess, he was obsessed with the idea that British officials would deal with him, and sent emissaries through neutral countries with offers so extravagant they were ridiculed. A staunch admirer of Himmler, he represented him in negotiations with Sweden's Count Bernadotte for Himmler to surrender the German armed forces and thus continue in office after Hitler by permission of the Allied commanders.

One notes two glaring omissions. Schellenberg has nothing to say about extermination of Jews, although we know from other sources that he arranged for their escape and sought to reduce Himmler's severity and to frustrate Kaltenbrunner's savagery. Missing too is the crushing of the Generals' Revolt. While he casually mentions Colonel Skorzeny, we are left in the dark concerning the discovery of and methods of tracking down the plotters by his organization, which surely must have played the major role. That should have made an interesting story. However, these omissions do not seriously detract from the interest and value of Schellenberg's memoirs which, unlike those of other former Nazi officials, have no excuses to offer. He merely carried on as befit a proper Nazi.

Advice from the Retired

RETIREMENT FROM THE ARMED FORCES
Military Service Publishing Company, 1957
431 Pages; $4.95

Reviewed by
COL. B. B. MCMAHON, *USA, retired after thirty-six years' service whose last assignment was Army attaché at Helsinki.*

At last—a book which removes the necessity to visit office after office, and read book after book, for information about retirement problems. Also, it codifies the contents of completed questionnaires on retirement problems, rendered by 519 retired officers of all grades and

services. While many of their comments and suggestions on particular issues are in general agreement, on others they differ sharply, but such variation enables the reader to reconcile and adapt them toward a solution of his own problems.

Of the officers who submitted answers to the questionnaires, 189 enjoyed general or flag rank, 326 held other commissioned grades, and 4 were warrant officers. Of these, 84 command yearly incomes of $10,000 or more, over and above retired pay; 107, between $5,000 and $10,000; and 152, between $100 and $5,000. The remaining 176 have no income beyond their retired pay. Those with paying jobs include 62 corporation executives, 52 real estate, insurance and security salesmen, 36 technical consultants and doctors, 32 teachers and college employees, and 32 farmers and ranchers. One hundred and seven practice other skills and professions, and 198 are unemployed, except for hobbies and home care. While the group is top heavy with general and flag rank, it includes a wide range of service, age, skills and experience, and commands a wealth of knowledge to share with those still facing retirement.

Especially noteworthy are the following features: personal medical records and their importance in obtaining physical disability retirement (this can mean hundreds of dollars yearly); advantage of living in community property states; comparative state and municipal taxes; health, temperature and humidity conditions in numerous localities; renting, buying or building a home; getting a job; savings and investments; protection for dependents; Social Security; Veterans Administration benefits; information the service wife or widow must have about family assets and liabilities; death benefits. If a matter concerns any phase of retirement, before or after, of Regular, National Guard or Reserve personnel of any rank or either sex, it's covered.

In addition to such reference material is a fascinating chapter, "Advice from Retired Officers," wherein they tell how they got their present jobs; how they prepared or didn't prepare for them while still in service; the steps they would take to make additional retirement money if they could relive their careers; the features of their service which helped in getting retired employment; why, if so, they are unemployed; the social and other readjustments they and their wives must make; how they finance post-retirement education of their children. Ninety per cent agree that useful employment after retirement is necessary to contentment and health; 70 officers believe the South to be the best place to retire, but 66 choose California, 65 Florida, 31 the Southwest, and 25 Texas. Two thirds of the 519 officers knew where they were going to live at the time they retired. While 17 say "Don't retire until you have to," 13 advise "Retire as early as possible." Contributors in general agree in advising: plan for retirement well in advance of its coming; keep busy during retirement, pay or no pay; be financially prepared for retirement—have at least a down payment for your retirement home.

The day of retirement is too late to start planning a change of life which will be a period of gratification and not of bewilderment. Such preparation should be begun many years—ten or fifteen or more—before the end of active service. Some oldsters have made costly mistakes which timely study might have prevented; younger military personnel can profit from reading this book and start building a ramp from active to retired status, and not be faced by a precipice when the time comes.

Speech Material

DOCUMENTS ON AMERICAN FOREIGN RELATIONS, 1956
Edited by Paul E. Zinner
Harper & Brothers, 1957
552 Pages; Index; $6.75

Reviewed by
ROBERT N. WALKER, *Ph. D., who is Adjunct Professor at The American University, and consultant to the Office of Special Warfare.*

This is the 1957 edition of a series devoted to foreign affairs published for the Council on Foreign Relations.

The book is exceedingly useful both for reference and for initial study. It consists of carefully selected documents, some abbreviated, on the international aspects of American political, economic, or strategic problems.

The present volume clearly reflects the changing focus of attention of United States diplomacy in 1956. The tactical shifts in Soviet foreign policy, and the twin crisis in the Middle East and eastern Europe have been underscored, while disarmament and the peaceful uses of nuclear energy receive lesser but adequate attention. Material on the United Nations is given due emphasis in view of the integral role played by the Secretary General and the emergency session of the General Assembly in the major international crisis of the year.

The selection of documents has been motivated by their relevance to American foreign policy, and cover every aspect of America's foreign relations. These documents would require tedious and lengthy research in specialized libraries and official archives to locate; however, without the documents one is forced to rely on excerpts and quotations which appear in news media. Such excerpts may be and often are erroneous, garbled and out of context. The trend in academic and professional research today is to refer to the original document rather than to rely on an excerpted or paraphrased version for authoritative backstopping.

Examples of the type of material to be found are:

(1) A statement by Khrushchev made to the Supreme Soviet on 29 December 1955:

"If certain people think that our confidence in the victory of socialism, the teaching of Marxist-Leninism, is a violation of the Geneva spirit, they obviously have an incorrect notion of the Geneva spirit. They ought to remember once and for all that we never renounced and we will never renounce our ideas, our struggle for the victory of communism."

(2) Ambassador Lodge's speech in the United Nations General Assembly on 10 December 1956:

"In Hungary, we have seen a sequence of events which is indistinguishable in essence from the kind of thing which was done by Adolf Hitler in World War II. We have seen the suppression of a small country by a large, powerful dictatorship; we have seen the local puppet government make a treaty with the large external dictatorship authorizing it to tamper in every respect with the internal affairs of the small country; and finally, we have seen the people of that country left with only their own personal valor to stand between them and the large external dictatorship. This is the kind of thing that happened under Adolf Hitler to small countries, it is what happened under Josef Stalin, and it is what is happening in Hungary now under Khrushchev. There is no essential difference between what is being done by the Soviet Union today and what was done by Nazi Germany in its day."

(3) U.S. note to the Embassy of Japan in Washington, 19 March 1956:

"The United States Government is convinced that the proposed nuclear tests are vital to its own defense and the defense of the free world because the possession and competence in the use of nuclear weapons by leading nations of the free world are the chief deterrent to aggression and to war. International agreement to abandon tests without effective safeguards against the clandestine development of new weapons would involve a reliance by the United States upon the good intentions of certain nations not justified by the record of their actions in the past."

Readers will find this volume extremely useful for general information, for preparing speeches, and for keeping abreast of the ever-changing and fast-moving interplay of national interests which is diplomacy in action. This, as the Sage of the Fulton Fish Market, the late Al Smith, used to say, is "the record."

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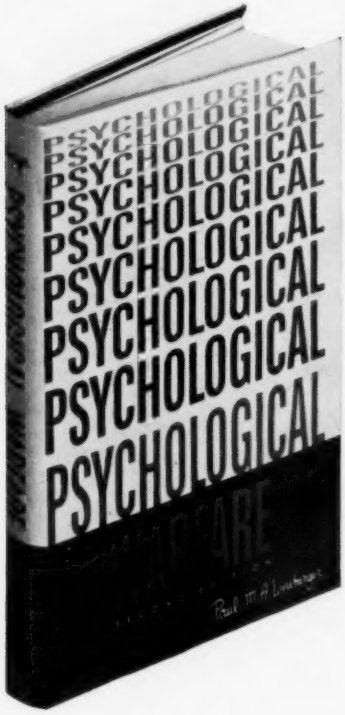

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